

ENVIRONMENTAL ASSESSMENT

PROPOSED CONSTRUCTION, DEMOLITION,
AND OTHER ACTIONS
AT THE 126TH AIR REFUELING WING
ILLINOIS AIR NATIONAL GUARD

SCOTT AIR FORCE BASE, ILLINOIS

AIR NATIONAL GUARD
ENVIRONMENTAL DIVISION

5 June 2006

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14. ABSTRACT Under the Proposed Action, the 126 ARW proposes to implement construction projects associated with their five-year construction program that would include eight specific projects: construction of some new facilities, modifications to some existing facilities, and demolition of one facility. Under the Alternative Action, the eight construction and demolition projects associated with the Proposed Action would still occur, in addition to three additional construction projects. The 126 ARW would also release their eight assigned KC-135E model aircraft and would acquire 12 KC-135R model aircraft. The number of aircraft operations would increase by approximately 50 percent as a result of the four additional assigned aircraft. There would also be an increase of 27 personnel (firefighters) as a result of this alternative. During the preparation of this EA, no significant impacts as a result of implementation of either the Proposed Action or the Alternative Action have been identified, and therefore, an Environmental Impact Statement is not required, and will not be prepared. Resources considered in the EA include earth resources, water resources, biological resources, air quality, noise, land use, socioeconomics and environmental justice, cultural resources, safety, solid and hazardous materials and wastes, and infrastructure. The EA was made available to the public for comment for a 30-day period (February 5 through March 10). No public comments were received. The EA was also coordinated with local, state, and federal agencies at the same time. There were only two agency responses (United States Fish and Wildlife Service [USFWS] and State Historic Preservation Office [SHPO]). Both were in concurrence with the findings in the EA.					
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**FINDING OF NO SIGNIFICANT IMPACT
FOR
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PURPOSE: The purpose of the Proposed Action is to provide the 126th Air Refueling Wing (126 ARW) with properly sized and configured facilities that are required to effectively accomplish their mission. The Proposed Action is necessary to reconfigure facilities to accommodate the continuously evolving mission of the 126 ARW. The new facilities would enhance the 126 ARW's ability to maintain a level of wartime readiness necessary to support the mission.

PROPOSED ACTION: Under the Proposed Action, the 126 ARW will implement construction projects in support of their air refueling mission that are planned for the next five-year period. Associated with this construction activity will be demolition of one facility that is obsolete, deteriorated, and in the footprint of one of the proposed facilities.

ALTERNATIVE ACTION: Under the Alternative Action, all construction and demolition associated with the Proposed Action would occur in addition to three other construction projects. Additionally, the 126 ARW would release their 8 Primary Assigned Aircraft (PAA) KC-135E model aircraft and would acquire 12 PAA KC-135R model aircraft. The number of aircraft operations would increase by approximately 50 percent as a result of the four additional PAA. In addition, there would be an increase of 27 personnel at the installation.

NO ACTION ALTERNATIVE: Under the No Action Alternative, the 126 ARW would maintain their existing facilities and would not build any of the new facilities proposed. In general, the No Action Alternative would require that the 126 ARW continue to operate under unnecessarily inefficient conditions, and that anti-terrorism/force protection (AT/FP) requirements continue to be unmet. Deficiencies could continue to impair the 126 ARW's ability to successfully conduct their mission and to maintain wartime readiness and training.

SUMMARY OF FINDINGS:

Potential impacts associated with the Proposed Action and the Alternative Action have been assessed with regard to the following environmental resource areas:

Earth Resources. There will be 1.80 acres of surface disturbance over the course of the construction program associated with the Proposed Action (and 3.48 acres under the Alternative

Action). The grading of existing soil and placement of structural fill for new facilities will not substantially alter existing soil conditions at the installation because, to a large extent, the construction described above is planned for areas where surface disturbance has previously occurred. Best Management Practices (BMPs) will be used to limit soil movement, stabilize runoff, and control sedimentation. Impacts to earth resources are expected to be minimal.

Water Resources. There will be approximately 1.75 acres of new impervious surface that will result under the Proposed Action (and 3.43 acres under the Alternative Action). The 126 ARW will update their Storm Water Pollution Prevention Plan (SWPPP) to include these projects and will obtain, as appropriate, coverage under a National Pollutant Discharge Elimination System (NPDES) Construction Storm Water permit from the Illinois Environmental Protection Agency (Illinois EPA). Adherence to the requirements of the permit will include implementation of BMPs to minimize the potential for exposed soils or other contaminants from construction activities to reach nearby surface waters. It is expected that impacts to water resources will be minimal.

Biological Resources. In general, projects described under the Proposed Action and the Alternative Action are located at sites that are highly altered by man. The potential for any federally listed species to occur on the Base is low, with the exception of the Indiana Bat. Recent correspondence with the Illinois Department of Natural Resources (IDNR) revealed that no records exist of any state-listed threatened or endangered species on or adjacent to the Base. The 126 ARW will coordinate, as necessary, with the United States Fish and Wildlife Service (USFWS) prior to implementation of construction activities to ensure that impacts to sensitive species do not occur. Impacts to biological resources are expected to be minimal.

Air Quality. In general, combustive and fugitive dust emissions from proposed construction activities under the Proposed Action or the Alternative Action will produce localized, elevated air pollutant concentrations that will occur for a short duration and will not result in any long-term impacts on the air quality of St. Clair County or Air Quality Control Region (AQCR) 70. Impacts to air quality in the County and the AQCR are expected to be minimal.

Noise. Construction noise emanating off-site as a result of the Proposed Action will likely be noticeable in the immediate construction site vicinity, but is not expected to create adverse impacts. In addition, noise associated with the aircraft conversion and the associated construction activities described under the Alternative Action will similarly not be expected to create adverse impacts because the noise contours actually shrink under this alternative. The acoustic environment on and near the airfield property is expected to remain relatively unchanged from existing conditions. Impacts from noise are expected to be minimal.

Land Use/Visual Resources. The proposed construction and demolition projects described under the Proposed Action and the Alternative Action are expected to enhance overall installation planning and compatibility of functions on the 126 ARW installation in general. Some existing incompatibilities will be corrected. Visual resources are generally not expected to be impacted. Impacts to land use and visual resources are expected to be minimal.

Socioeconomics/Environmental Justice. There are no substantial long-term changes in population and/or employment as a result of implementation of the Proposed Action. Although there is an anticipated increase of 27 personnel under the Alternative Action, this is a minor increase and will not result in any appreciable impact. Additionally, the projects described under the alternatives are not expected to create adverse environmental or health effects, and therefore no disproportionately high or adverse impacts to minority, low-income, or youth populations are expected. Impacts to socioeconomics and environmental justice are expected to be minimal.

Cultural Resources. Activities associated with the Proposed Action or the Alternative Action are not expected to impact archaeological or traditional resources. Demolition of Building 5542 will be coordinated with the Illinois State Historic Preservation Officer (SHPO) to determine its eligibility to the National Register of Historic Places (NRHP) prior to demolition. Impacts to cultural resources are expected to be minimal.

Safety. Implementation of the Proposed Action or the Alternative Action does involve ground activities that may expose workers performing the required site preparation, grading, and building construction to some risk. Strict adherence to all applicable occupational safety requirements will minimize the relatively low risk associated with these construction activities. All projects have been sited outside any quantity-distance arcs, as appropriate. Additionally, the proposed projects will include measures to enhance and correct AT/FP shortfalls as part of the facility designs. Impacts to safety are expected to be minimal.


Hazardous Materials and Waste Management. The proposed construction and demolition projects associated with the Proposed Action or the Alternative Action will generate construction and demolition waste that will be recycled and/or taken to a local demolition landfill, as appropriate. There are no capacity issues with the existing landfills. Hazardous materials and wastes will be handled, stored, and disposed of in accordance with applicable regulations. Any asbestos-containing material (ACM), lead-based paint (LBP), or contaminated soils associated with Environmental Restoration Program (ERP) sites will be removed and disposed of per applicable regulations. Impacts as a result of hazardous materials and waste management are expected to be minimal.

Infrastructure. The proposed construction and demolition projects associated with the Proposed Action or the Alternative Action will result in some temporary interruption of utility services and

minor hindrance of transportation and circulation during construction activities. These impacts will be temporary, occurring only for the duration of the construction period. In general, infrastructure at the 126 ARW installation will improve under these actions. Impacts to infrastructure are expected to be minimal.

PUBLIC INVOLVEMENT: The National Environmental Policy Act (NEPA), 40 Code of Federal Regulations (CFR) 1500-1508, and 32 CFR 989 require public review of the Environmental Assessment (EA) before approval of the Finding of No Significant Impact (FONSI) and implementation of the Proposed Action or the Alternative Action. A notice of availability for public review of the Draft EA was published in the Belleville News-Democrat on Sunday, February 5 and Sunday, February 19, 2006. The Draft EA was available for public review from February 5 through March 10, 2006. No public comments were received. The EA was also coordinated with local, state, and federal agencies during the same time period. Two agency responses (USFWS and SHPO) were received. Both were in concurrence with the findings in the EA.

FINDING OF NO SIGNIFICANT IMPACT (FONSI): Based on my review of the facts and analysis in the Environmental Assessment, I conclude that neither the Proposed Action nor the Alternative Action will have a significant impact either by itself or considering cumulative impacts. Accordingly, the requirements of NEPA, the Council on Environmental Quality (CEQ), and 32 CFR 989, et seq. have been fulfilled, and an Environmental Impact Statement (EIS) is not necessary and will not be prepared.



RAYMOND J. ROTTMAN, Colonel, USAF
Commander

15 MAY 06
Date

ACRONYMS AND ABBREVIATIONS

$\mu\text{g}/\text{m}^3$	micrograms per cubic meter	FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
126 ARW	126 th Air Refueling Wing	FONSI	Finding of No Significant Impact
375 AW	375 th Airlift Wing	FY	fiscal year
375 CES/CEV	375 th Civil Engineering Squadron, Environmental Flight	HAP	High Accident Potential
AAQS	ambient air quality standards	HAZMAT	Hazardous Materials Pharmacy
ACHP	Advisory Council on Historic Preservation	Hz	Hertz
ACM	asbestos-containing material	I-64	Interstate 64
AEF	Air Expeditionary Force	IAC	Illinois Administrative Code
AEOZ	Airport Environs Overlay Zone	IDNR	Illinois Department of Natural Resources
AFB	Air Force Base	IICEP	Interagency and Intergovernmental Coordination for Environmental Planning
AFI	Air Force Instruction	ILANG	Illinois Air National Guard
AFIERA	Air Force Institute for Environment, Safety, and Occupational Health Risk Analysis	Illinois EPA	Illinois Environmental Protection Agency
AFPD	Air Force Policy Directive	LBP	lead-based paint
AGL	above ground level	L_{dn}	Day-Night Average Sound Level
AICUZ	Air Installation Compatible Use Zone	$L_{\text{eq}(24)}$	equivalent noise level over a 24-hour period
AIRFA	American Indian Religious Freedom Act	$L_{\text{eq}(8)}$	equivalent noise level over an eight-hour period
AMC	Air Mobility Command	L_{max}	Maximum Sound Level
ANG	Air National Guard	LTA	Lighter Than Air
AOC	Area of Concern	MSL	above mean sea level
APZ	Accident Potential Zone	NAAQS	National Ambient Air Quality Standards
AQCR	Air Quality Control Region	NAGPRA	Native American Graves Protection and Repatriation Act
AST	aboveground storage tank	NEC	National Electrical Code
AT/FP	anti-terrorism/force protection	NEI	National Emission Inventory
BAI	backup aircraft inventory	NEPA	National Environmental Policy Act
BASH	Bird-Aircraft Strike Hazard	NHPA	National Historic Preservation Act
bgs	below ground surface	NO_2	nitrogen dioxide
BMP	Best Management Practice	NO_x	nitrogen oxides
BP	before present	NPDES	National Pollutant Discharge Elimination System
CAA	Clean Air Act	NRCS	Natural Resources Conservation Service
CATS	Combat Arms Training Simulator	NRHP	National Register of Historic Places
CEQ	Council on Environmental Quality	O_3	ozone
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	$^{\circ}\text{F}$	degrees Fahrenheit
CERFA	Community Environmental Response Facilitation Act	OWS	oil/water separator
CFR	Code of Federal Regulations	P.L.	Public Law
CO	carbon monoxide	PA/SI	Preliminary Site Assessment/Site Investigation
CWA	Clean Water Act	PAA	primary assigned aircraft
dB	decibel	Pb	lead
dBA	A-weighted decibel	PCI	per capita income
DoD	Department of Defense	$\text{PM}_{2.5}$	particulate matter less than or equal to 2.5 micrometers in diameter
DOPAA	Description of Proposed Action and Alternatives	PM_{10}	particulate matter less than or equal to 10 micrometers in diameter
EA	environmental assessment	POL	petroleum, oil, and lubricants
EIAP	Environmental Impact Analysis Process	ppm	parts per million
EIS	environmental impact statement	PSD	Prevention of Significant Deterioration
EO	Executive Order	RCRA	Resource Conservation and Recovery Act
EPCRA	Emergency Planning and Community Right-to-Know Act	ROI	Region of Influence
ERP	Environmental Restoration Program	SARA	Superfund Amendments and Reauthorization Act
ESA	Endangered Species Act	SEL	Sound Exposure Level
FEMA	Federal Emergency Management Agency	SF	square feet
FESOP	Federally Enforceable State Operating Permit	SHPO	State Historic Preservation Officer
FFCA	Federal Facility Compliance Act		

COVER SHEET

ENVIRONMENTAL ASSESSMENT FOR PROPOSED CONSTRUCTION, DEMOLITION, AND OTHER ACTIONS AT THE 126TH AIR REFUELING WING AT SCOTT AIR FORCE BASE, ILLINOIS

Responsible Agencies: United States Air Force (USAF), Headquarters Air Mobility Command (AMC), Scott Air Force Base (AFB), Illinois, and 375th (375 AW) Airlift Wing, Scott AFB, Illinois.

Affected Location: Scott AFB, St. Clair County, Illinois.

Proposed Action: Implementation of construction, demolition, and other actions in support of mission of the 126th Air Refueling Wing (126 ARW).

Report Designation: Environmental Assessment (EA).

Written comments and inquiries regarding this document should be directed to: Major Kevin Jacobs, 126 ARW, Illinois Air National Guard, 146 Air Guard Way, Scott Air Force Base, Illinois 62225-5503

Abstract: Under the Proposed Action, the 126 ARW proposes to implement construction projects associated with their five-year construction program that would include eight specific projects: construction of some new facilities, modifications to some existing facilities, and demolition of one facility. Under the Alternative Action, the eight construction and demolition projects associated with the Proposed Action would still occur, in addition to three additional construction projects. The 126 ARW would also release their eight assigned KC-135E model aircraft and would acquire 12 KC-135R model aircraft. The number of aircraft operations would increase by approximately 50 percent as a result of the four additional assigned aircraft. There would also be an increase of 27 personnel (firefighters) as a result of this alternative.

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1.0 PURPOSE AND NEED

1.1 INTRODUCTION

The 126th Air Refueling Wing (126 ARW) of the Illinois Air National Guard (ILANG) is a tenant at Scott Air Force Base (AFB), Illinois. The 126 ARW is tasked with providing air-to-air refueling and airlift capabilities for Department of Defense (DoD) assets worldwide under the Air Mobility Command (AMC). The Wing also supports state emergency missions. The 126 ARW currently has eight KC-135E refueler aircraft (eight primary assigned aircraft [PAA], no backup aircraft inventory [BAI]), and also provides support to numerous transient aircraft.

The 126 ARW proposes to implement construction projects associated with their five-year construction program that would include construction of several new facilities, modifications to some existing facilities, and demolition of one facility, including:

- Construct Pumphouse Spill Containment
- Addition to the Mid-Field Fire Station
- Construct New Pavements and Grounds Facility
- Construct New Security Forces Facility
- Addition/Alteration to the Deployment Processing Facility
- Addition/Alteration to the Communication Facility
- Construct New Tanker Airlift Command Training Center
- Demolish Parking Shed (Building 5042)

In accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [USC] 4321-4347), Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] §§ 1500-1508), and 32 CFR 989, et seq., *Environmental Impact Analysis Process* (formerly promulgated as Air Force Instruction [AFI] 32-7061), the 126 ARW has prepared this Environmental Assessment (EA) that considers the potential consequences to the human and natural environment that may result from implementation of these projects.

1.2 PURPOSE AND NEED FOR THE ACTION

The purpose of the Proposed Action is to provide the 126 ARW with properly sized and configured facilities that are required to effectively accomplish their mission. The Proposed

Action is necessary to reconfigure facilities to accommodate the continuously evolving mission of the 126 ARW. The new facilities would enhance the 126 ARW's ability to maintain a level of wartime readiness necessary to support the mission. The following paragraphs describe the purpose and need for each of the listed projects.

Construct Pumphouse Spill Containment. The pumphouse must be constructed to contain all JP-8 fuel releases within the area. All equipment installed within any hazardous classified area must be constructed in accordance with the National Electrical Code (NEC). The existing pumphouse (Facility 5038) was not originally constructed in accordance with the Type III standard for hydrant fueling systems, as established by the DoD Fuel Facility Engineering Panel, as well as environmental guidelines, and therefore must be reconfigured to conform to the NEC Type III standard and environmental guidelines. All storm drainage from the site is collected and piped to an adjacent drainage ditch, which eventually flows off-Base. Should a spill occur at the pumphouse, it would flow directly to the drainage ditch, presenting substantial environmental concerns. Should fuel be inadvertently released into the existing spill containment area, it would drain into the existing electrical manhole and could lead to a potential fire hazard. The pumphouse must have a curb around the perimeter of the facility to provide containment in the event of a spill. The existing pumphouse slab is flush with the surrounding grade, allowing any spills within the facility to escape through the doorways.

Addition to Mid-Field Fire Station. The existing Mid-Field Fire Station (Building 3901) is operated by the host unit at Scott AFB, the 375th Airlift Wing (375 AW). As such, the 126 ARW has insufficient facilities for fire protection training. To meet the mission requirements for the 126 ARW, a facility that has the necessary office/administrative space, training facilities, and equipment storage is required. The 126 ARW currently conducts training exercises out of Fire Station #3 (Mid-Field Fire Station), during unit training assemblies (UTA's), which occur during one weekend per month; however, this is a temporary situation and permanent training facilities must be provided. These temporary measures are not conducive to an effective and efficient training environment. The 126 ARW will not be fully mission-ready until fire training facilities are available.

Construct Pavements and Grounds Facility. The existing pavements and grounds facility is comprised of 1950's era carports (Building 5542) that are dilapidated, rodent infested, and do not have adequate dimensions to support the necessary equipment. Additionally, there are numerous health, safety, and fire code deficiencies. The 126 ARW requires a pavements and grounds facility to support the civil engineering function that is properly sized and equipped for their current mission. Without the new facility, the 126 ARW civil engineering function will continue to operate in inefficient conditions, which will result in higher operating costs.

Construct New Security Forces Facility. The existing Security Forces Facility, which is located in Building 5046, is undersized to support training requirements. The 126 ARW Security Forces are currently allocated only approximately 50 percent of the authorized space required for this function. Currently the facility does not contain a Combat Arms Training Simulator (CATS); it has insufficient space for operations, administration, training, classrooms, and storage. The 126 ARW requires an adequately sized and properly configured facility to accommodate the Security Forces function, which include areas for command, administration, pass and identification production, law enforcement, an arms vault with an area for weapons maintenance, classroom, training and counseling, mobility storage and build-up, and locker rooms. Without sufficient space to conduct training, the Security Forces cannot efficiently and effectively conduct their mission, which includes ensuring that daily security on the installation is maintained. Additionally, without sufficient storage area, valuable mobility assets would continue to be exposed to weathering.

Addition/Alteration to the Deployment Processing Center. The existing Deployment Processing Center is located in Building 5028. A deployment processing center for mobility deployment currently does not exist. As a result of Air Expeditionary Force (AEF) requirements, the Air National Guard (ANG) is required to deploy at least every 30 months. This is in addition to any non-AEF flying requirements, contingencies, wars, and other mobilization deployments. Mobility Processing for the 126 ARW is currently being accomplished ad hoc in an available hangar. The ad hoc facilities are not compatible with a function that must be accomplished in a streamlined manner. Additionally, the use of a maintenance hangar for deployment processing detracts from the simultaneous maintenance activities that must occur so that forces can deploy. The 126 ARW requires a facility that can efficiently accommodate receiving and processing of personnel and their baggage; baggage pallet buildup; counseling; briefing; restrooms and a vending area. Adequate ingress and egress areas must also be provided to accommodate passenger buses, cargo trucks, and the handling of mobility and personnel bags. Without a properly designed Mobility Processing Center, the 126 ARW will be ineffective and inefficient during this extremely time-sensitive task.

Addition/Alteration to the Communication Facility. The space allocated for the Communications function of the 126 ARW is currently severely undersized, and the function is dispersed into three separate facilities to temporarily accommodate the space requirements. This results in an inefficient use of time and resources. Under the Proposed Action, the function would be consolidated into Building 5010 to create a more efficient environment for this function. The existing facilities do not have the necessary ventilation required for communications equipment, and therefore a temporary air conditioning unit is being used to keep the equipment properly ventilated. This results in a security risk to the equipment. Without a consolidated

communications function, the 126 ARW will continue to operate in an inefficient environment that could negatively impact command and control functions at the installation.

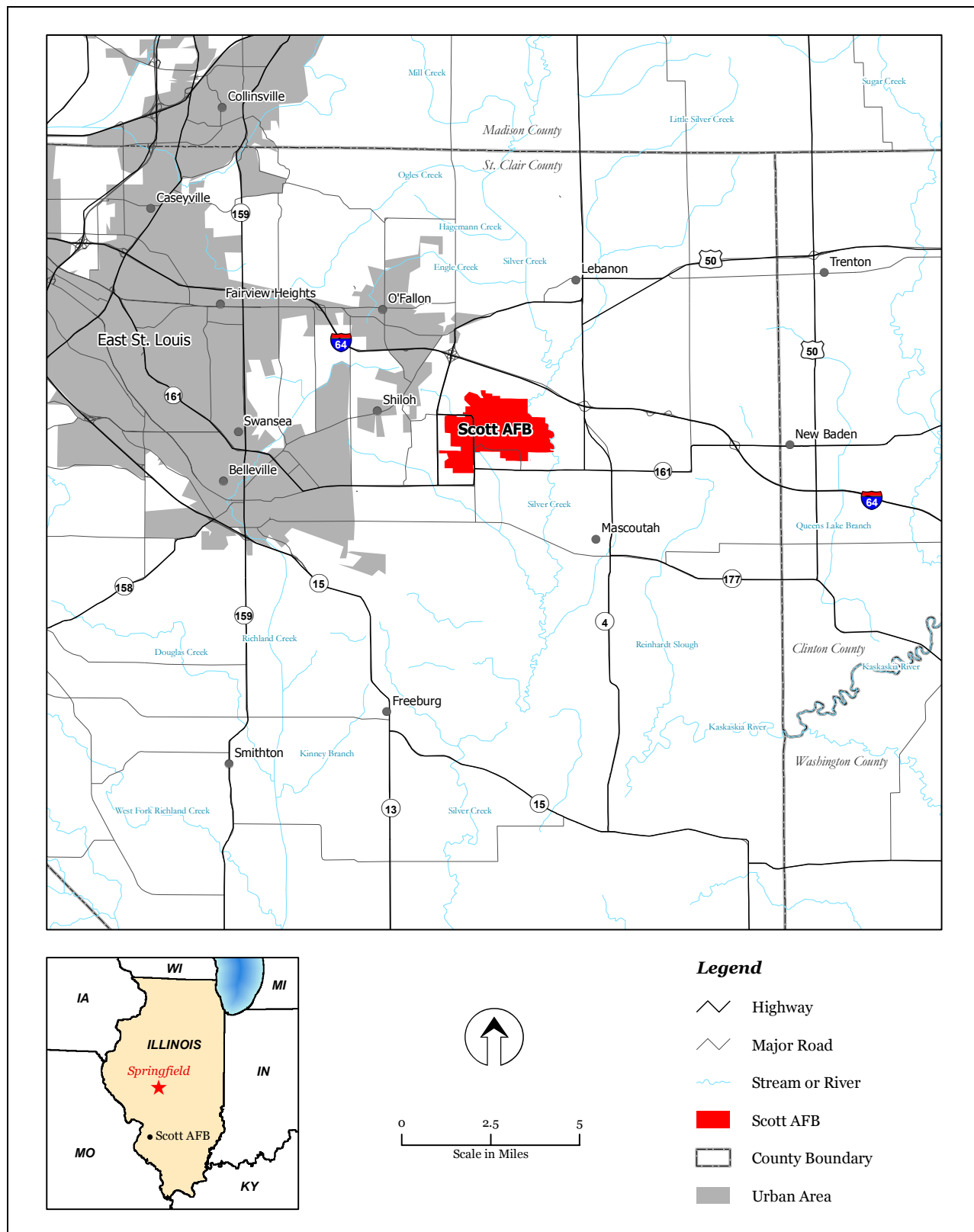
Construct Tanker Airlift Command Training Center. The United States Air Force (USAF) currently does not have a Tanker Airlift Command Training Center (TACTC) and basically relies on Tanker Airlift Command Center (TACC) training occurring at existing TACC locations (Scott AFB, MacDill AFB, and Travis AFB). The ANG has identified a need for a TACTC to provide training for TACCs. The 126 ARW TACC squadron must currently rely on availability at the Scott AFB TACC for training. The new facility would be used to provide TACC training USAF-wide. The facility would also serve as an alternate TACC facility to the Scott AFB facility, on an as-needed basis. On-site personnel are currently relocated to off-site facilities in California and Florida when the Scott AFB TACC becomes unavailable. The new facility would eliminate this operational down-time due to relocation by functioning as an alternate TACC.

Facility Demolition. Building 5542 would be demolished under the Proposed Action. This building is the existing carport that is used for pavements and grounds storage. It was constructed in 1951 and is dilapidated and functionally inadequate for the function it is performing. Additionally, it lies in the footprint of the proposed TACTC.

1.3 LOCATION AND DESCRIPTION OF THE 126 ARW

Scott AFB is located in St. Clair County, in the southwest portion of Illinois. The Base is approximately 100 miles south of Springfield, the state capital, and 20 miles east of St. Louis, Missouri. The Base comprises 3,589 acres and is located in a predominantly agricultural area. The base is immediately south of Interstate Highway 64 (Figure 1.3-1), near the cities of O'Fallon and Belleville. The 126 ARW is located in the northeast quadrant of Scott AFB, and west of Mid-America Airport, and covers approximately 133 acres.

The primary mission of the 126 ARW is to provide air refueling support to major commands of the USAF, as well as to other United States (U.S.) military forces and the military forces of allied nations. In addition to air-to-air refueling of military aircraft, the unit trains men and women to defend our nation anywhere in the world; to protect the State of Illinois through civil defense and disaster relief; and to serve in the surrounding communities.



1.4 SUMMARY OF KEY ENVIRONMENTAL REQUIREMENTS

1.4.1 NATIONAL ENVIRONMENTAL POLICY ACT

NEPA requires federal agencies to take into consideration the potential environmental consequences of proposed actions in their decision-making process. The intent of NEPA is to protect, restore, and enhance the environment through well-informed federal decisions. The CEQ was established under NEPA to implement and oversee federal policy in this process. The CEQ subsequently issued the Regulations for Implementing the Procedural Provisions of the NEPA (40 CFR Sections 1500–1508) (CEQ 1978). These requirements specify that an EA be prepared to:

- Briefly provide sufficient evidence and analysis for determining whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).
- Aid in an agency's compliance with NEPA when an EIS is not necessary.
- Facilitate preparation of an EIS when one is necessary.

The activities addressed within this document constitute a federal action and therefore must be assessed in accordance with NEPA. To comply with NEPA, as well as other pertinent environmental requirements, the decision-making process for the Proposed Action includes the development of this EA to address the environmental issues related to the proposed activities. Each federal agency has their own procedures for implementing NEPA, and the USAF implementing procedures are contained in 32 CFR 989 et seq., *Environmental Impact Analysis Process*.

1.4.2 ENDANGERED SPECIES ACT

The Endangered Species Act (ESA) of 1973 (16 USC §§ 1531–1544, as amended) established measures for the protection of plant and animal species that are federally listed as threatened and endangered, and for the conservation of habitats that are critical to the continued existence of those species. Federal agencies must evaluate the effects of their proposed actions through a set of defined procedures, which can include the preparation of a Biological Assessment and can require formal consultation with the United States Fish and Wildlife Service (USFWS) under Section 7 of the Act.

1.4.3 CLEAN AIR ACT

The Clean Air Act (CAA) (42 USC §§ 7401–7671, as amended) provided the authority for the United States Environmental Protection Agency (USEPA) to establish nationwide air quality

standards to protect public health and welfare. Federal standards, known as the National Ambient Air Quality Standards (NAAQS), were developed for six criteria pollutants: ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), particulate matter, and lead (Pb). The Act also requires that each state prepare a State Implementation Plan (SIP) for maintaining and improving air quality and eliminating violations of the NAAQS. Under the CAA Amendments of 1990, federal agencies are required to determine whether their undertakings are in conformance with the applicable SIP and demonstrate that their actions will not cause or contribute to a new violation of the NAAQS; increase the frequency or severity of any existing violation; or delay timely attainment of any standard, emission reduction, or milestone contained in the SIP.

1.4.4 WATER RESOURCES REGULATORY REQUIREMENTS

The Clean Water Act (CWA) of 1977 (33 USC § 1251 *et seq.*) regulates pollutant discharges that could affect aquatic life forms or human health and safety. Section 404 of the CWA, and Executive Order (EO) 11990, *Protection of Wetlands*, regulate development activities in or near streams or wetlands. Section 404 regulates development in streams and wetlands and requires a permit from the United States Army Corps of Engineers (USACE) for dredging and filling in wetlands. EO 11988, *Floodplain Management*, requires federal agencies to take action to reduce the risk of flood damage; minimize the impacts of floods on human safety, health, and welfare; and to restore and preserve the natural and beneficial values served by floodplains. Federal agencies are directed to consider the proximity of their actions to or within floodplains.

1.4.5 CULTURAL RESOURCES REGULATORY REQUIREMENTS

The National Historic Preservation Act (NHPA) of 1966 (16 USC § 470) established the National Register of Historic Places (NRHP) and the Advisory Council on Historic Preservation (ACHP), outlining procedures for the management of cultural resources on federal property. Cultural resources can include archaeological remains, architectural structures, and traditional cultural properties such as ancestral settlements, historic trails, and places where significant historic events occurred. NHPA requires federal agencies to consider potential impacts to cultural resources that are listed, nominated to, or eligible for listing on the NRHP; designated a National Historic Landmark; or valued by modern Native Americans for maintaining their traditional culture. Section 106 of NHPA requires federal agencies to consult with State Historic Preservation Officers (SHPO) if their undertakings might affect such resources. *Protection of Historic and Cultural Properties* (36 CFR 800 [1986]) provided an explicit set of procedures for federal agencies to meet their obligations under the NHPA, which includes inventorying of resources and consultation with SHPO.

The American Indian Religious Freedom Act (AIRFA) (42 USC § 1996) established federal policy to protect and preserve the rights of Native Americans to believe, express, and exercise their traditional religions, including providing access to sacred sites. The Native American Graves Protection and Repatriation Act (NAGPRA) (25 USC §§ 3001–3013) requires consultation with Native American tribes prior to excavation or removal of human remains and certain objects of cultural importance.

1.4.6 OTHER REGULATORY REQUIREMENTS

Additional regulatory legislation that potentially applies to the implementation of this proposal includes guidelines promulgated by EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, to ensure that citizens in either of these categories are not disproportionately affected by proposed actions. Additionally, potential health and safety impacts that could disproportionately affect children will be considered under the guidelines established by EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*.

1.4.7 ENVIRONMENTAL COORDINATION

EO 12372, *Intergovernmental Review of Federal Programs*, requires intergovernmental notifications prior to making any detailed statement of environmental impacts. Through the process of Interagency and Intergovernmental Coordination for Environmental Planning (IICEP), the proponent must notify concerned federal, state, and local agencies and allow them sufficient time to evaluate potential environmental impacts of a Proposed Action. Comments from these agencies are subsequently incorporated into the Environmental Impact Analysis Process (EIAP). A list of federal, state, and local agencies that have been contacted regarding this proposal can be found in Appendix A, along with responses received.

In a recently formulated policy to address EO 13084, *Consultation and Coordination with Indian Tribal Governments*, the DoD has clarified its policy for interacting and working with federally recognized American Indian and Alaska Native governments. Under this policy guidance, proponents must provide timely notice to, and consult with, tribal governments prior to taking any actions that have the potential to affect protected tribal resources, tribal rights, or Indian lands. Tribal input must be solicited early enough in the planning process that it may influence the decision to be made.

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

The 126 ARW relocated from Chicago, Illinois to Scott AFB in 1999. Nearly all of the 126 ARW facilities were newly constructed and were designed to accommodate the existing mission requirements at that time. Mission requirements for all the military has evolved since that time, and new mission requirements for the 126 ARW require that some of their facilities be updated, while there are other new facilities that are now required. The 126 ARW currently maintains 19 permanent facilities at Scott AFB (Figure 2.1-1). The Proposed Action is to implement construction and demolition projects that would accommodate the continuously evolving mission of the 126 ARW. These projects are described in more detail in Section 2.2.

2.2 PROPOSED ACTION

Under the Proposed Action, the 126 ARW would implement construction projects as described in Table 2.2-1, and a facility demolition as described in Section 2.2.8. These facilities would be sited as shown in Figure 2.2-1.

2.2.1 CONSTRUCT PUMPHOUSE SPILL CONTAINMENT

Under this project, the area on the southeastern and southwestern sides of the existing pumphouse (Facility 5038) would be graded to accommodate new piping and drainage inlets that would be installed to connect the new spill containment area into the existing spill containment system. A curbed slab would be poured to encompass all potential exits from the pumphouse, and to include above ground fuel piping between the pumphouse and the storage tank dikes. Additionally, the top elevation of the existing manholes within the containment area would be raised such that spills could not leak into these manholes. Approximately 3,000 square feet (SF) would be regraded to accommodate the new curb. There would be no additional paved areas as a result of this project.

2.2.2 ADDITION TO MID-FIELD FIRE STATION

An addition of 2,175 SF would be added to the existing Mid-Field Fire Station to accommodate the additional training requirements of the 126 ARW. The addition would primarily accommodate classrooms, lockers, and administrative areas for the 126 ARW. This would include a concrete foundation and floor slab; steel-framed masonry walls and floor structure; and all utilities. There would be no additional parking area required. The exterior would be architecturally compatible with the surrounding Base facilities.

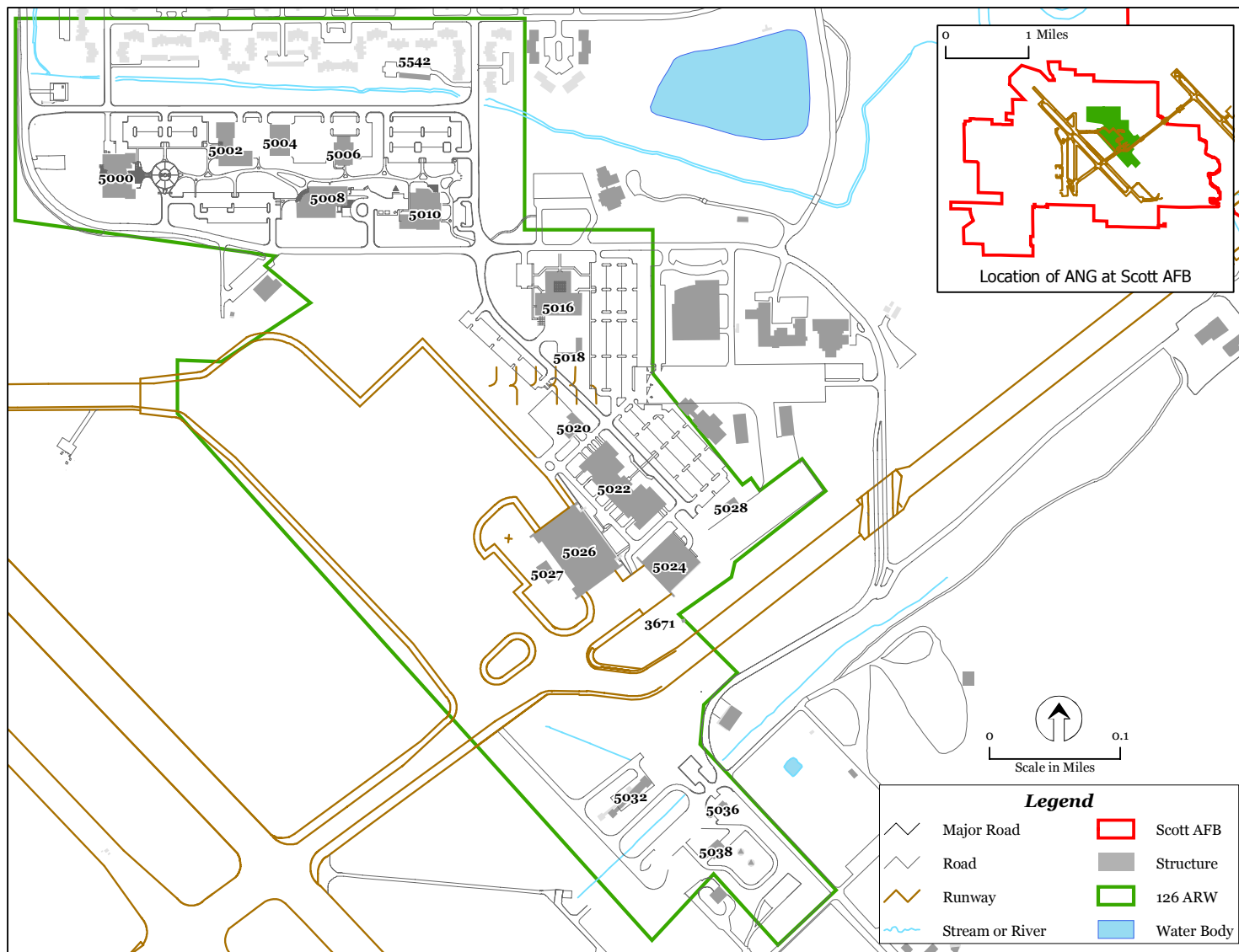


Figure 2.1-1. Existing Facilities at the 126 ARW, Scott Air Force Base, Illinois

Table 2.2-1. List of Projects Included Under the Proposed Action

<i>Action Item</i>	<i>Project Number</i>	<i>Project Title</i>	<i>Facility and/or Addition Size</i>	<i>Project Description</i>
1	VDYD042015	Construct Pumphouse Spill Containment	No addition	Grade area surrounding pumphouse, install piping, pour a curbed slab to encompass all exits from the pumphouse.
2	VDYD992001	Addition to Mid-Field Fire Station	2,175 SF	Addition of 2,175 SF to the existing fire station. Includes classrooms, lockers, and administrative areas.
3	VDYD049129	Construct Pavements and Grounds Facility	8,000 SF 2,000 SY (18,000 SF) new pavements	Construct an 8,000 SF facility to support Civil Engineering activities associated with maintenance. 2,000 SY of pavements would be required for the storage yard.
4	VDYD069044	Construct New Security Forces Facility	13,900 SF	Construct a 13,900 SF facility to support Security Forces; to include a combat arms training simulator. No new pavements anticipated.
5	VDYD059014 VDYD032079	Addition/Alteration to the Deployment Processing Center	5,600 SF 3,000 SY (27,000 SF) new pavements	Addition and alterations to Building 5028. Paved yard area will be expanded to accommodate mission.
6	VDYD032096	Addition/Alteration to the Communications Facility	1,705 SF	Addition of 1,705 SF to Building 5010 to accommodate mission requirements.
7	VDYD042033	Construct Tanker Airlift Command Training Center	16,090 SF 450 SY (4,050 SF) new pavements	Construct a 16,090 SF facility to accommodate new squadron mission.
8		Demolition of Building 5542	2,304 SF	Demolish dilapidated building that is in the footprint of the proposed TACTC.

Note: Building footprints are generally discussed in terms of square feet (SF), whereas pavement footprints are discussed in terms of square yards (SY).

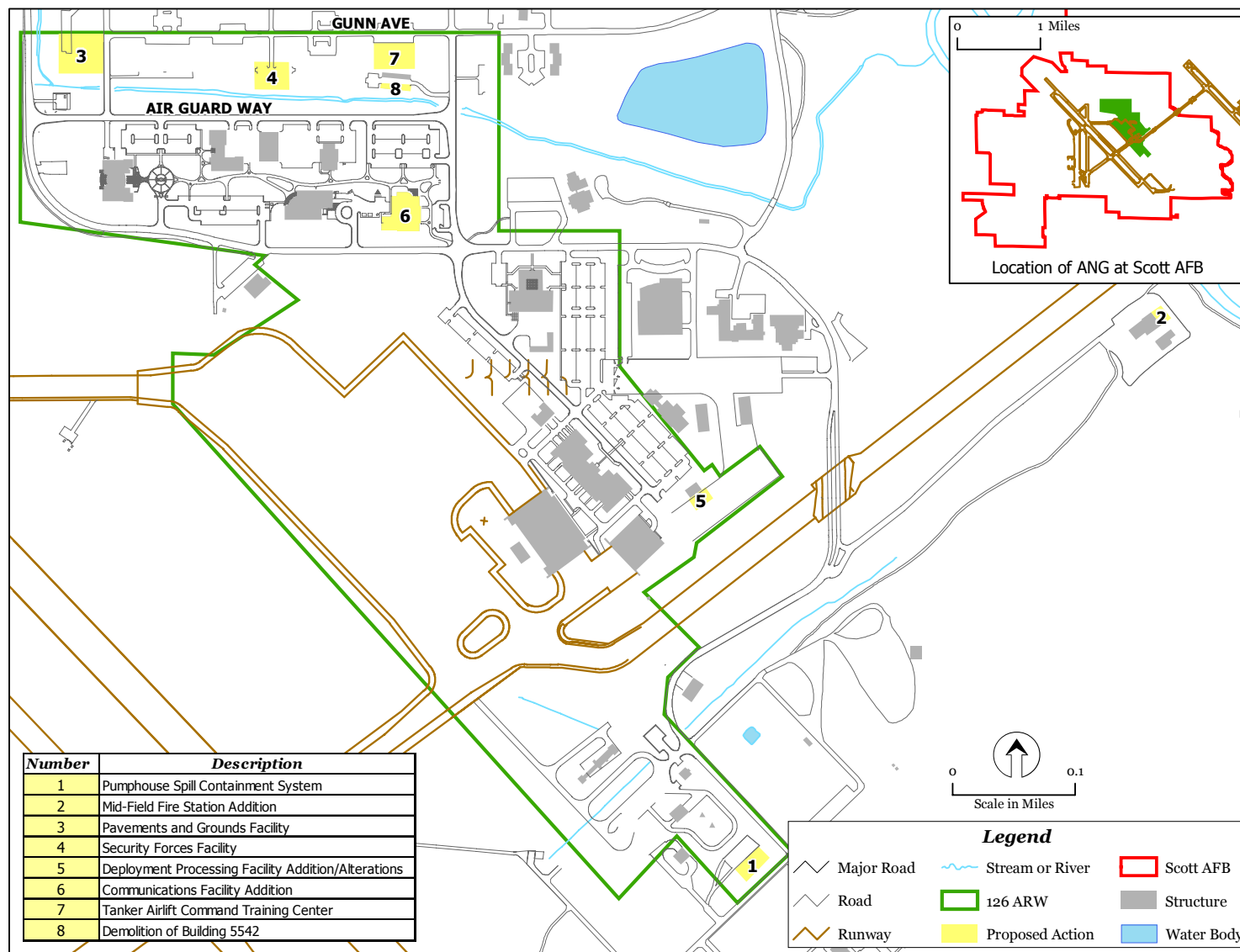


Figure 2.2-1. Projects Under the Proposed Action at the 126 ARW, Scott Air Force Base, Illinois

2.2.3 CONSTRUCT PAVEMENTS AND GROUNDS FACILITY

Under the Proposed Action, a new 8,000 SF pavements and grounds facility would be constructed to support Base Engineering functions. The building would be constructed with a concrete foundation and floor slab; structural steel metal walls with a standing seam metal roof. A 2,000 square yard (SY) (18,000 SF) equipment yard would be included in this project to support outdoor storage of appropriate equipment. All utilities and site improvements would be included. The exterior would be architecturally compatible with the surrounding Base facilities.

2.2.4 CONSTRUCT NEW SECURITY FORCES FACILITY

Under the Proposed Action, a new 13,900 SF Security Forces facility would be constructed. The building would be constructed with a concrete foundation and floor slab, with masonry walls, an exterior brick veneer, and a metal seam roof. The exterior would be architecturally compatible with the surrounding Base facilities. All utilities and site improvements would be included. There would be no new pavements required.

2.2.5 ADDITION/ALTERATION TO THE DEPLOYMENT PROCESSING CENTER

Under this project, interior alterations would occur to Building 5028, which is currently 14,748 SF. There would also be an addition of approximately 5,600 SF to accommodate the undersized Deployment Processing Center. The addition would require a reinforced concrete foundation and floor slab with steel-framed metal siding, and metal standing seam roof. All utilities and site improvements would be included. The exterior would be architecturally compatible with the surrounding Base facilities. A 1,000 SY (9,000 SF) area of pavements would be added to an area of approximately 2,000 SY (18,000 SF) of pavements to accommodate outdoor storage.

2.2.6 ADDITION/ALTERATION TO THE COMMUNICATION FACILITY

Under this project, interior alterations would occur to 10,000 SF of Building 5010 to support the requirements of the computer equipment, and training facilities that would be located in this facility. There would also be an addition of approximately 1,705 SF to accommodate the undersized communication function. The addition would require a reinforced concrete foundation and floor slab with steel-framed masonry walls, and metal standing seam roof. All utilities and site improvements would be included. The exterior would be architecturally compatible with the surrounding Base facilities. No additional pavements would be required.

2.2.7 CONSTRUCT TANKER AIRLIFT COMMAND TRAINING CENTER

There is currently no TACTC at the 126 ARW, and therefore this would be a new 16,090 SF facility to support this function. The building would be designed as a single story masonry facility constructed on a reinforced concrete slab with steel-framed masonry walls and metal

standing seam roof. All utilities and site improvements would be included. The exterior would be architecturally compatible with the surrounding Base facilities. There is an existing parking area across the street from the proposed location that would accommodate the majority of parking requirements at this new facility. An additional 450 SY (4,050 SF) parking area would be added.

2.2.8 FACILITY DEMOLITION

Under the Proposed Action, one building would be demolished. Building 5542 is a multi-vehicle carport that was constructed in 1951 and is 2,304 SF. It used to be a carport within the old family housing area of Scott AFB. The building is in dilapidated condition and is in the footprint of the proposed TACTC.

2.2.9 SUMMARY OF SURFACE DISTURBANCE ASSOCIATED WITH THE PROPOSED ACTION

As a result of the Proposed Action, there would be approximately 45,166 SF of net new building footprint, and 31,050 SF of net new pavements, resulting in a total of approximately 1.75 acres of new impervious surface. Table 2.2-3 summarizes proposed surface disturbance as a result of the Proposed Action.

2.3 ALTERNATIVE ACTION #1: IMPLEMENTATION OF PROPOSED CONSTRUCTION AND DEMOLITION IN ADDITION TO AIRCRAFT INCREASE AND ASSOCIATED ACTIONS

Under this alternative, the eight construction and demolition projects associated with the Proposed Action, as described in Section 2.2 would still occur, in addition to other construction activities (described in more detail below), and non-construction related actions associated with the 126 ARW Master Plan. Under this alternative, the 126 ARW would release their eight PAA KC-135E model aircraft and would acquire 12 PAA KC-135R model aircraft. The number of aircraft operations would increase by approximately 50 percent as a result of the four additional PAA. The authorized flying time and manning would be based on 12 PAA. In general, aircraft maintenance activities at the 126 ARW would remain approximately the same as they currently are because the new model is more efficient and requires less maintenance. There would be an increase of 27 personnel (firefighters) as a result of this alternative. This alternative will be carried forward for further analysis.

Table 2.2-3. Pavements and Building Footprints – Net New Impervious Surface Under the Proposed Action

<i>Project</i>	<i>(a) New Pavement</i>	<i>(b) Demolished Pavement</i>	<i>(c) Net New Pavement (a – b)</i>	<i>(d) New Building Footprint</i>	<i>(e) Demolished Footprint</i>	<i>(f) Net New Building Footprint (d – e)</i>	<i>Total New Impervious Surface (c + f)</i>
1 – Construct Pumphouse Spill Containment	0	0	0	0	0	0	0
2 – Addition to Mid-Field Fire Station	0	0	0	2,175 SF	0	2,175 SF	2,175 SF
3 – Construct Pavements and Grounds Facility	18,000 SF (2,000 SY)	0	18,000 SF	8,000 SF	0	8,000 SF	26,000 SF
4 – Construct a New Security Forces Facility	0	0	0	13,900 SF	0	13,900 SF	13,900 SF
5 – Addition/Alteration to Deployment Processing Center	9,000 SF (1,000 SY)	0	9,000 SF	5,600 SF	0	5,600 SF	14,600 SF
6 – Addition/Alteration to Communications Facility	0	0	0	1,705 SF	0	1,705 SF	1,705 SF
7 – Construct Tanker Airlift Command Training Center	4,050 SF (450 SY)	0	4,050 SF	16,090 SF	0	16,090 SF	20,140 SF
8 – Demolish Building 5542	0	0	0	0	2,304 SF	-2,304 SF	-2,304 SF
Totals	31,050 SF	0	31,050 SF	47,470 SF	-2,304 SF	45,166 SF	76,216 SF (1.75 acres)

Under Alternative Action #1, additional construction activities required are described in the following sections.

2.3.1 CONSTRUCT AIRCRAFT APRON EXPANSION

Under this alternative, the existing aircraft parking apron would be expanded to accommodate the additional four KC-135R aircraft that would be beddown at Scott AFB for the 126 ARW. This expansion would be located as shown in Figure 2.3-1, at the northwest end of the existing apron. The expansion would be approximately 8,000 SY (72,000 SF) of pavements and would be constructed of reinforced concrete that is two to three feet thick.

2.3.2 ADDITION TO MID-FIELD FIRE STATION (FURTHER ADDITION)

Under this alternative, in addition to the expansion of the Mid-Field Fire Station under the Proposed Action, an additional expansion of 1,200 SF would occur to the existing Mid-Field Fire Station to accommodate the additional space and training requirements for an additional 27 fire fighters for the 126 ARW. The structural addition would primarily accommodate classrooms, lockers, and administrative areas for these additional fire fighters. The addition would include a concrete foundation and floor slab; steel-framed masonry walls and floor structure; and all utilities. There would be no additional parking area required. The exterior would be architecturally compatible with the surrounding Base facilities.

2.3.3 ADDITION OF HYDRANT PIT AND BLAST DEFLECTORS ON THE PARKING APRON

Under this alternative, a new fuel hydrant pit and blast deflector would be located on the aircraft parking apron, as shown in Figure 2.3-1. The hydrant pit would allow for more efficient aircraft fueling on the apron, and would comply with the military Type III hydrant fueling system requirements. The proposed hydrant pit would require approximately 400 linear feet of trenching, and the stainless steel pipe connecting the proposed hydrant pit to the existing hydrant pits would be located approximately 5 feet below ground surface (bgs). The pipe would be connected to the existing eight hydrant pumps on the apron that are directly connected to the Petroleum, Oil, and Lubricants (POL) facility. The hydrant pit itself would be located within a subterranean concrete vault that would be approximately 320 cubic feet (8 feet long, 5 feet wide, and 8 feet deep). The blast deflector would deflect heat and noise from engine run-ups on the apron. The deflector would be located as shown in Figure 2.3-1. It would be constructed of concrete.

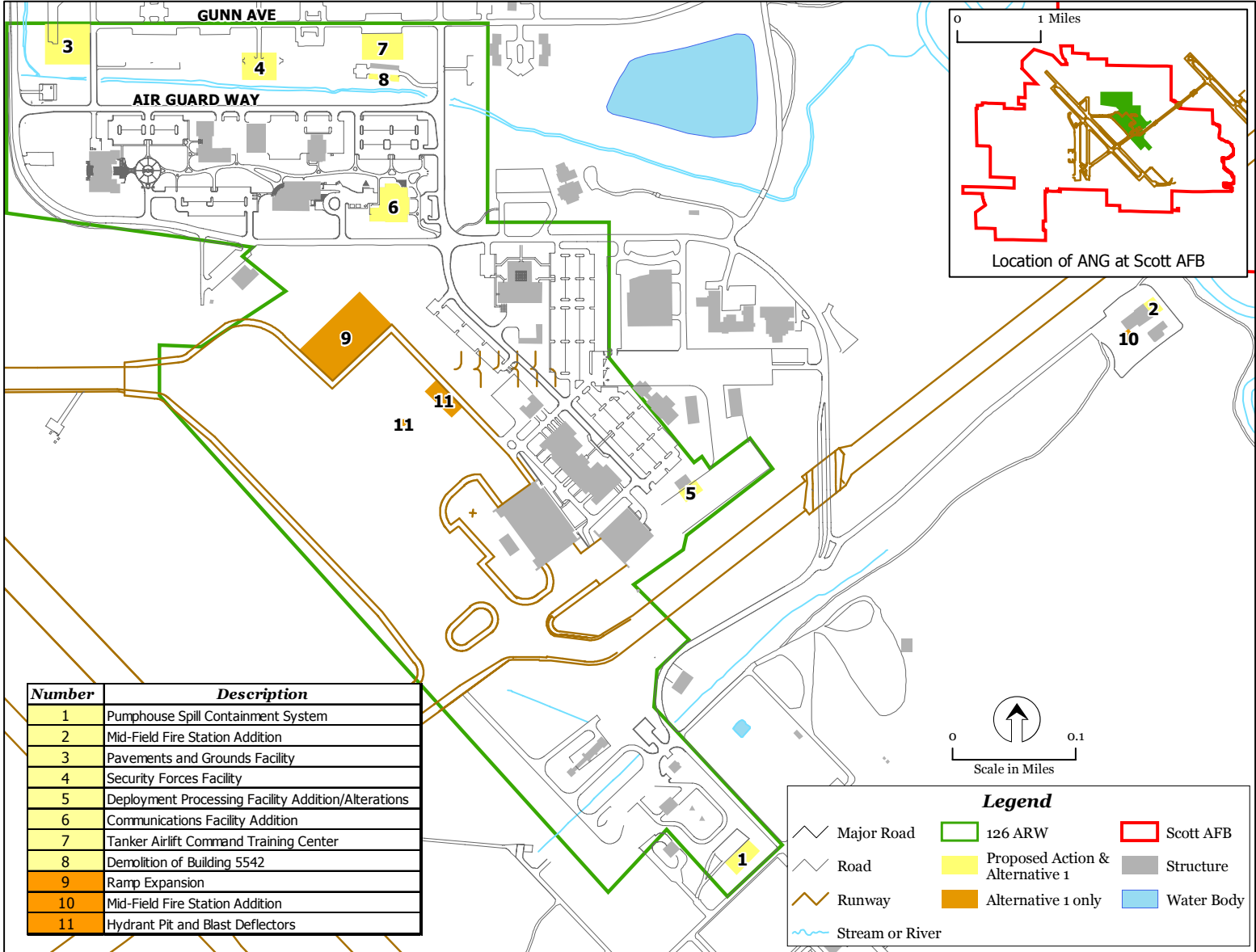


Figure 2.3-1. Projects Under Alternative Action #1 at the 126 ARW, Scott Air Force Base, Illinois

2.3.4 SUMMARY OF SURFACE DISTURBANCE ASSOCIATED WITH THE ALTERNATIVE ACTION

As a result of the Alternative Action, there would be approximately 46,366 SF of net new building footprint, 103,050 SF of net new pavements, resulting in a total of approximately 3.43 acres of new impervious surface. Table 2.3-1 summarizes proposed surface disturbance as a result of the Alternative Action.

Table 2.3-1. Pavements and Building Footprints – Net New Impervious Surface Under the Alternative Action

<i>Project</i>	<i>(a) New Pavement</i>	<i>(b) Demolished Pavement</i>	<i>(c) Net New Pavement (a – b)</i>	<i>(d) New Building Footprint</i>	<i>(e) Demolished Footprint</i>	<i>(f) Net New Building Footprint (d – e)</i>	<i>Total New Impervious Surface (c + f)</i>
1 – Construct Pumphouse Spill Containment	0	0	0	0	0	0	0
2 – Addition to Mid-Field Fire Station	0	0	0	2,175 SF	0	2,175 SF	2,175 SF
3 – Construct Pavements and Grounds Facility	18,000 SF (2,000 SY)	0	18,000 SF	8,000 SF	0	8,000 SF	26,000 SF
4 – Construct a New Security Forces Facility	0	0	0	13,900 SF	0	13,900 SF	13,900 SF
5 – Addition/Alteration to Deployment Processing Center	9,000SF (1,000 SY)	0	9,000 SF	5,600 SF	0	5,600 SF	14,600 SF
6 – Addition/Alteration to Communications Facility	0	0	0	1,705 SF	0	1,705 SF	1,705 SF
7 – Construct Tanker Airlift Command Training Center	4,050 SF (450 SY)	0	4,050 SF	16,090 SF	0	16,090 SF	20,140 SF
8 – Demolish Building 5542	0	0	0	0	2,304 SF	-2,304 SF	-2,304 SF
9 – Construct Aircraft Apron Expansion	72,000 SF (8,000 SY)	0	72,000 SF	0	0	0	72,000 SF
10 – Addition to Mid-Field Fire Station	0	0	0	1,200 SF	0	1,200 SF	1,200 SF
11 – Construct Hydrant Pit and Blast Deflector	0	0	0	0	0	0	0
Totals	103,050 SF	0	103,050 SF	48,670 SF	-2,304 SF	46,366 SF	149,416 SF (3.43 acres)

2.4 NO ACTION ALTERNATIVE

Under the No Action alternative, the 126 ARW would maintain their existing facilities and would not construct, renovate, or demolish facilities, as proposed. The 126 ARW would continue to have insufficient space and inefficient configuration to meet mission requirements.

- The Pumphouse would continue to be noncompliant with the NEC's Type III standard for hydrant fueling systems, and fuel accidentally released would eventually flow into the storm drainage system. Additionally, fuel could drain into the existing electrical manhole leading to a potentially dangerous fire situation.
- The Mid-field Fire Station would continue to be undersized, which would continue to impact proper training.
- The Pavements and Grounds facility would not be constructed and the 126 ARW would continue to use the dilapidated, insufficiently equipped 1950's carport for this function. Insufficient storage space would continue to require additional maintenance on the equipment that is forced to be stored in the elements.
- The Security Forces facility would continue to be undersized by approximately 50 percent and training and storage would continue at dispersed locations throughout the installation, resulting in inefficiencies.
- The Deployment Processing Center would also continue to be undersized and operated out of several separate facilities, resulting in inefficient processing of personnel through this time-sensitive operation.
- The Communications facility would continue to operate in a facility that was never designed for state-of-the-art computer equipment, which would ultimately require unnecessary maintenance on this equipment.
- The TACTC would not be constructed and this training capacity would remain unfulfilled.

Under the No Action alternative, these deficiencies would continue to impair the 126 ARW's ability to successfully conduct their mission and to maintain wartime readiness and training.

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3.0 EXISTING CONDITIONS

Chapter 3.0 describes the existing environmental and socioeconomic conditions potentially affected by the Proposed Action. This section provides information to serve as a baseline from which to identify and evaluate environmental and socioeconomic changes likely to result from implementation of the Proposed Action. Baseline conditions represent current conditions. The potential environmental and socioeconomic impacts of implementing the Proposed Action or its alternatives are described in Chapter 4.0.

In compliance with NEPA, CEQ guidelines, and 32 CFR Part 989, et seq., the description of the affected environment focuses on those resources and conditions potentially subject to impacts. These resources and conditions include: earth resources, water resources, biological resources, air quality, noise, land use and visual resources, socioeconomics and environmental justice, cultural resources, safety, hazardous materials and wastes, and infrastructure.

3.1 EARTH RESOURCES

3.1.1 DEFINITION OF THE RESOURCE

Earth resources include geology, soils, and topography. Geologic resources of an area typically consist of surface and subsurface materials and their inherent properties. The term “soils” refers to unconsolidated materials formed from the underlying bedrock or other parent material. Soils play a critical role in both the natural and human environment. Soil drainage, texture, strength, shrink/swell potential, and erodibility all determine the suitability of the ground to support man-made structures and facilities. Topography refers to an area’s surface features including its vertical relief. These resources may have scientific, historical, economic, and recreational value. The region of influence (ROI) for earth resources in this EA includes the 126 ARW installation at Scott AFB, Illinois.

3.1.2 EXISTING CONDITIONS

3.1.2.1 Geology

The geologic units of St. Clair County include Paleozoic sedimentary rocks and Cenozoic unconsolidated materials. Pennsylvanian Age bedrock lies approximately 85 feet below the surface and includes layers of shale, siltstone, sandstone, limestone, claystone, and coal. The Pennsylvanian strata are approximately 265 feet thick. Water-yielding Chesterian Series sandstones lie beneath the Pennsylvanian strata. Wells in these sandstones yield 20 to 50 gallons per minute (Scott AFB 2004a; 375th Civil Engineering Squadron, Environmental Flight [375 CES/CEV] 2003).

The Herron No. 6 coal bed, with an average thickness of 6 to 7 feet, lies 90 to 200 feet below the surface of Scott AFB and extends out several miles to the west and south. Abandoned subsurface mines are located about 1 mile southwest of the Scott AFB runway and about 2 miles northwest of the Base. There has been no mining under the Base itself, and therefore there is no subsidence risk from such activity (Scott AFB 2004a; 375 CES/CEV 2003).

Scott AFB lies within Seismic Zone IX, which contains the New Madrid Fault Zone, that extends from Cairo, Illinois, on the Ohio River southward through New Madrid, Missouri. The New Madrid Fault Zone is the most active seismic area east of the Rocky Mountains, with almost weekly tremors and on rare occasions, small earthquakes measuring 3.0 to 4.0 or more on the Richter scale. The last major earthquake along this fault was in 1812 and measured more the 8.0 on the Richter scale (United States Geological Survey 2005).

Glacial and alluvial deposits ranging in thickness from 50 feet to 125 feet dominate surficial geology at the Base. The Base lies on the Springfield Plain subdivision of the Till Plains section of the Central Lowlands Physiographic Province and is located on the west end of the Silver Creek Valley Basin (Scott AFB 2004a; 375 CES/CEV 2003).

3.1.2.2 Soils

Upland soils in St. Clair County consist primarily of a glacial till plain or glacial outwash plain covered by wind-deposited soils, called loess. The thickness of the loess in the County ranges from 10 feet in the eastern portions to 100 feet in the western portions. The predominant soils at Scott AFB are silt loams and silty clay loams that occur to a depth of 16 inches. These soils typically have a moderately high water holding capacity, moderate to high shrink-swell ratios, and a moderate to high corrosive potential (Scott AFB 2004a; 375 CES/CEV 2003). According to the Natural Resources Conservation Service (NRCS) 2002 *Soil Survey for St. Clair County*, there are six soil mapping units that occur on the 126 ARW installation at Scott AFB. These mapping units are described below.

Bethalto Silt Loam, 0-2 percent slopes. The soil is derived from alluvial parent material, such as sand, silt, or clay that was deposited by a riverine system. This soil is typically found in alluvial fans. These are somewhat poorly drained soils (NRCS 2002). The Bethalto Silt Loam is the predominant soil type on the 126 ARW installation. As shown in Figure 3.1-1, this soil type comprises approximately 85 percent of the installation.

Caseyville Silt Loam, 0-2 percent slopes. This soil type is found on interfluvial uplands on till plains that are nearly flat to gently rolling. The parent material of this soil is loess, which is a fine-grained, silty material that was wind deposited. This is a somewhat poorly drained soil (NRCS 2002). This soil type is found on the most eastern portion of the 126 ARW installation.

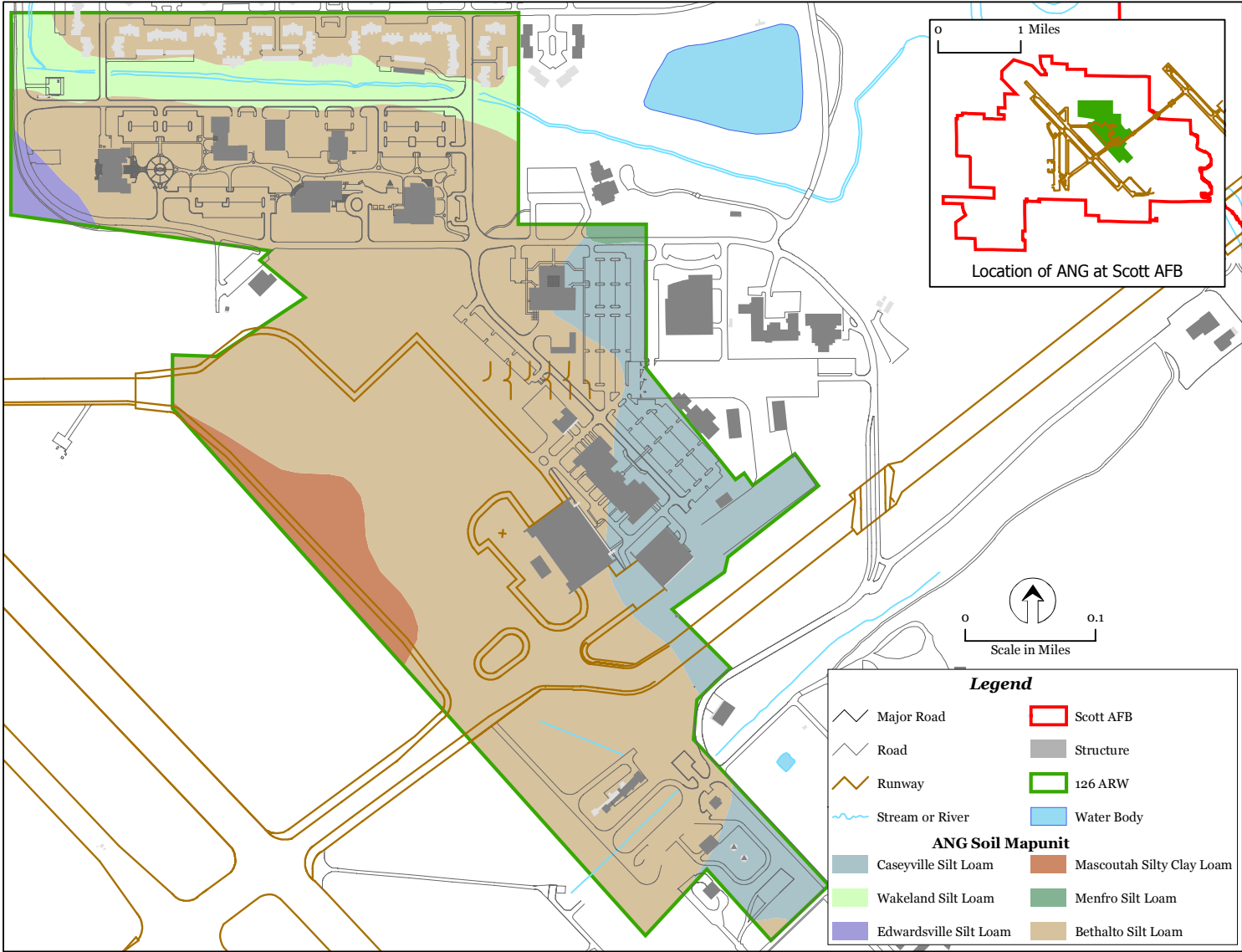


Figure 3.1-1. Soil Mapping Units on the 126 ARW Installation at Scott AFB, Illinois

Wakeland Silt Loam, 0-2 percent slopes, frequently flooded. This soil type is found in floodplains, and is comprised of alluvial material, such as sand, silt, or clay, that was deposited by a riverine system. This is a somewhat poorly drained soil that is frequently flooded (NRCS 2002). This soil type is found along the drainage system on the northern portion of the 126 ARW installation.

Mascoutah Silty Clay Loam, 0-2 percent slopes. This soil type is found on interfluvial uplands on till plains that are nearly flat to gently rolling. The parent material of this soil is loess, which is a fine-grained, silty material that was wind deposited. This is a poorly drained soil (NRCS 2002). This soil is found on the western portion of the 126 ARW parking apron.

Edwardsville Silt Loam, 0-2 percent slopes. This soil type is similar to the Mascoutah Silty Clay Loam in that it is also found on interfluvial uplands on till plains that are nearly flat to gently rolling. The parent material of this soil is also loess. This is a somewhat poorly drained soil (NRCS 2002). This soil is found in a very small pocket on the western portion of the 126 ARW installation where East Drive bends due north.

Menfro Silt Loam, 10-18 percent slopes, eroded. This soil type is typically found on side slopes of till plains. The parent material of this soil is also loess. This is a well-drained soil that is prone to erosion due to the slope (NRCS 2002). There is just one small pocket of this soil type on the eastern portion of the 126 ARW installation along East Drive.

Because of the relatively flat topography on Scott AFB, soil erosion is not a widespread problem. The primary development constraints associated with the soils at the 126 ARW are poor drainage and moderate to severe shrink-swell potential for the upland soils. Subsurface construction, such as basements, can be problematic due to the poor drainage characteristics and from periodic flooding (Scott AFB 2004a; 375 CES/CEV 2003).

3.1.2.3 Topography

Scott AFB is located on the west end of the Silver Creek Valley Basin, which is generally characterized by flat to gently rolling hills. The Base land surface is generally flat. The maximum surface elevation at the Base is 510 feet above mean sea level (MSL) at a till ridge north of the Base golf course. The lowest surface elevation is approximately 420 feet MSL along the eastern boundary of the Base within the Silver Creek floodplain. The elevation of Silver Creek east of the Base is about 405 feet MSL (Scott AFB 2004a; 375 CES/CEV 2003).

3.2 WATER RESOURCES

3.2.1 DEFINITION OF THE RESOURCE

Water resources analyzed in this EA include surface water and groundwater quantity and quality. Surface water resources include lakes, rivers, and streams and are important for a variety of reasons, including economic, ecological, recreational, and human health. Groundwater includes the subsurface hydrologic resources of the physical environment and is an essential resource. Groundwater properties are often described in terms of depth to aquifer or water table, water quality, and surrounding geologic composition.

Other issues relevant to water resources include the downstream water and watershed areas affected by existing and potential runoff, and hazards associated with 100-year floodplains. Floodplains are defined by EO 11988, *Floodplain Management*, as “the lowland and relatively flat areas adjoining inland and coastal waters including flood-prone areas of offshore islands, including at a minimum, the area subject to a one percent or greater chance of flooding in any given year” (that area inundated by a 100-year flood). Floodplain values include natural moderation of floods, water quality maintenance, groundwater recharge, as well as habitat for many plant and animal species.

The ROI for water resources in this EA comprises the area of the 126 ARW installation and airfield at Scott AFB, underlying aquifers, and their downstream drainages.

3.2.2 EXISTING CONDITIONS

3.2.2.1 Surface Water

The ROI is located in the Lower Kaskaskia Watershed, which drains an area of 1,060,900 acres (NRCS 2004). Silver Creek, a tributary of the Kaskaskia River (which is a tributary of the Mississippi River), is located on the east side of Scott AFB. It drains approximately 60 percent of surface runoff from the Base including surface runoff from the 126 ARW installation (375 CES/CEV 2003; Scott AFB 2004a). The Illinois Environmental Protection Agency (Illinois EPA) rates water quality in Silver Creek as “fair” in the vicinity of Scott AFB. Nutrients and siltation from agricultural operations are the primary non-point sources of water pollution (375 CES/CEV 2003). Ash Creek drains the remainder of Scott AFB, but does not receive surface runoff from the 126 ARW installation.

Surface water features on Scott AFB include North Ditch, South Ditch, and Mosquito Creek, all of which are tributaries of Silver Creek, as well as Scott Lake, Cardinal Lake, and the Base golf course ponds (Scott AFB 2004a). The only surface water feature on the 126 ARW installation is

Cardinal Creek and an open drainage ditch that flows east to west through the northern portion of the installation eventually discharging into Silver Creek (375 AW 2005).

A substantial percentage of the 126 ARW installation consists of surfaces that are impervious to water infiltration, such as asphalt, concrete, or buildings/facilities. Drainage from these areas is directed by surface topography and perimeter curbing to enclosed storm sewers and open channels (Scott AFB 2004b). Scott AFB is divided into 12 defined drainage basins. Surface runoff generated within the 126 ARW installation is associated with portions of Basins N1 and T1. Basin N1 includes the aircraft ramp area of the 126 ARW, and Basin T1 includes the 126 ARW aircraft hangars, flightline, and bulk fuel storage. Surface water runoff from Basin N1 flows east to Silver Creek via the North Ditch. Surface water runoff from Basin T1 is conveyed via underground piping to an open channel, which is Cardinal Creek. This surface water then drains into the wetland area located in the eastern portion of Scott AFB before reaching Silver Creek (Scott AFB 2004b).

Storm water runoff generated by the 126 ARW is permitted under an industrial storm water permit issued to Scott AFB by the Illinois EPA. Runoff is managed in accordance with the Scott AFB *Final Storm Water Pollution Prevention Plan* (SWPPP), which is a requirement of the permit (Scott AFB 2004b). The 375 AW SWPPP is an engineering and management strategy prepared specifically for the 375 AW to improve the quality of the storm water runoff and thereby improve the quality of the receiving waters. The SWPPP also works to minimize storm water runoff thereby enhancing infiltration and subsequent ground water recharge. This plan ensures implementation of best management practices (BMPs) and delineates monitoring, training, and documentation requirements of the 375 AW's National Pollutant Discharge Elimination System (NPDES) storm water permit. The plan includes notification, permit application, and erosion control requirements for any construction activity that will disturb through clearing, grading, or excavating greater than one acre at the installation.

3.2.2.2 Floodplains

According to the Scott AFB Final Floodplain Survey (2005) and the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (2003) associated with the ROI, portions of the 100-year and 500-year floodplain associated with Silver Creek and Cardinal Creek are located within the 126 ARW installation (375 AW 2005; FEMA 2003). The 100-year and 500-year floodplains associated with Cardinal Creek are located in the northern portion of the installation, while a small portion of the 100-year and 500-year floodplains associated with Silver Creek are located in the eastern portion of the installation. The remainder of the 126 ARW installation is located within an area defined by FEMA as Zone X, which are "areas determined to be outside 500-year floodplain." The area immediately east of the 126 ARW installation boundary is defined as "special flood hazard areas inundated by 100-year flood,"

Zone AE on the FEMA map, where base flood elevations are determined. This area includes the 100-year floodplain associated with Silver Creek, as well as the Silver Creek floodway, which is defined by FEMA as "... the channel and adjacent overbank areas necessary to effectively convey floodwaters" (FEMA 2003; FEMA 2004).

3.2.2.3 Groundwater

Groundwater underlying Scott AFB ranges from 20 feet bgs on the western side of the Base to less than 1 foot bgs on the eastern side of the Base. Ground water flow is generally west to east towards Silver Creek (375 CES/CEV 2003). Because the 126 ARW installation is located in the eastern portion of the Base, it is assumed that groundwater underlying the 126 ARW installation is closer to 1 foot bgs.

3.3 BIOLOGICAL RESOURCES

3.3.1 DEFINITION OF THE RESOURCE

Biological resources consist of native or naturalized plants and animals, and their habitats, including wetlands. Although the existence and preservation of biological resources are both intrinsically valuable, these resources also provide essential aesthetic, recreational, and socioeconomic benefits to society. This section focuses on plant and animal species and vegetation types that typify or are important to the function of the ecosystem, are of special societal importance, or are protected under federal or state law or statute. For purposes of this assessment, sensitive biological resources are defined as those plant and animal species listed by the USFWS or the Illinois Department of Natural Resources (IDNR) as species of concern. Three categories of protection status are included in this section including, 1) federally listed threatened and endangered species, 2) state listed threatened and endangered species, and 3) other sensitive species (i.e., federal candidate, federal species of concern, proposed threatened, proposed endangered species, and state species in greatest need of conservation).

Federally Listed Threatened and Endangered Species. The ESA of 1973 provides protection to species federally listed as endangered or threatened. Endangered species are those species that are at risk of extinction in all or a significant portion of their range. Threatened species are those that could be listed as endangered in the near future.

State Listed Threatened and Endangered Species. The Illinois Endangered Species Protection Act (IDNR 2004) protects threatened and endangered species in the State of Illinois. Endangered species are those species in danger of extinction as a breeding species within the state. Illinois-threatened species are breeding species likely to become a state-listed endangered species within the foreseeable future.

Other Sensitive Species. Taxa under this heading are those federally listed as candidate, proposed endangered, proposed threatened, and state species in greatest need of conservation. Candidate species are those for which the USFWS has sufficient information on biological vulnerability and threats to support proposals to list them as endangered or threatened, but issuance of proposed rules for these species is precluded by higher priority listing actions. Proposed endangered and threatened species are those proposed for listing as endangered and threatened, respectively, and for which formal ruling is in progress. At present, candidate and proposed species do not receive legal protection under the ESA.

In addition, EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds* (2001), recognizes the ecological and economic importance of migratory birds to this and other countries. It requires federal agencies to evaluate the effects of their actions and plans on migratory birds (with an emphasis on species of concern) in their NEPA documents. Species of concern are those identified in, 1) the report “Migratory Nongame Birds of Management Concern in the United States” (USFWS 1995), 2) priority species identified by established plans such as those prepared by Partners in Flight, or 3) listed species in 50 CFR 17.11 *Endangered and Threatened Wildlife*.

Wetlands. Wetlands are defined by the USACE and USEPA as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include marshes, bogs, and similar areas” (33 CFR 328.3[b] 1984). Wetlands provide a variety of functions including groundwater recharge and discharge; flood attenuation; sediment stabilization; sediment and toxicant retention; nutrient removal and transformation; aquatic and terrestrial diversity and abundance; and aesthetic values. Three criteria are necessary to define wetlands: vegetation (hydrophytes), soils (hydric), and hydrology (frequency of flooding or soil saturation). Jurisdictional wetlands are those subject to regulatory authority under Section 404 of the CWA and EO 11990, *Protection of Wetlands*.

The ROI for biological resources includes Scott AFB and adjacent properties that exhibit contiguous tracts of land for migration of species.

3.3.2 EXISTING CONDITIONS

3.3.2.1 Vegetation

Scott AFB lies on the Springfield Plain subdivision of the Till Plains section of the Central Lowlands Physiographic Province and is located on the west end of the Silver Creek Valley Basin, an area characterized by generally flat to gently rolling hills (Scott AFB 2004a). The

Base land surface is generally level. The Central Lowlands Physiographic Province is the result of several glaciations. Glaciers covered most of the area in recent geologic history and left deep soil deposits which are now some of the richest agricultural lands in the province. The topography is flat to slightly rolling and the drainage pattern has been significantly altered from its original, prior-to-glaciation condition. Natural vegetative communities within the Base have been largely modified by past Base operations (USAF 1991). Scott AFB is located on relatively flat topography with low hills to the west and north. Land use around the Base is mainly agricultural with natural vegetation between fields, along roads and streams and near residences.

Upland vegetation on Scott AFB has been characterized into four different community types: Urban Upland, Upland Forest, Nonforested Upland, and Riparian Forest (Scott AFB 2005a). The Urban Upland community type covers approximately 80 percent of Scott AFB and typically consists of manicured lawns and associated landscaping and trees along streets. Other areas included in this community type are the ILANG portion of the Base, the golf course, the driving range, the unpaved areas of the airfield, and the former housing area located east of the golf course.

The Upland Forest community areas are dominated by upland trees such as white oak, northern red oak, sassafras, black walnut, hickories, black cherry, and hackberry. Various species of pine trees have also been planted in these areas. Amur honeysuckle is established in the upland forest and is a prominent component of the understory. Nearly all of the upland forested areas occur between the Silver Creek floodplain and the Family Camp area which is located in the northeast portion of Scott AFB. Other fragments of this community occur as narrow strips along steep fill slopes adjacent to the floodplain (Scott AFB 2005a).

The Nonforested Upland areas are dominated by grass species such as fescue, bluegrass and lovegrass, and typical open-field vegetation such as goldenrod with some invasion of smaller trees and shrubs in areas that are not maintained by mowing. The Nonforested Upland areas are found around the Family Camp area, various locations around Scott Lake, an area at the southern end of the airfield and one other area in the southern portion of the Base around the former landfill (Scott AFB 2005a).

The Riparian Forest areas contain many vegetative species common to wetlands, including ash, elm, cottonwood, pin oak, and silver maple. Two species, the hackberry and the shagbark hickory tend to differentiate the poorly drained riparian forest areas from the poorly drained wetlands. The Riparian Forest has a canopy that is approximately 30 to 40 percent open (Scott AFB 2005b). The understory of the Riparian Forest is relatively sparse; however, stinging nettle and white heath aster dominate a dense herbaceous layer in this community. The Riparian Forest areas are located throughout the floodplain of Silver Creek. Portions of the Riparian Forest have been classified as jurisdictional wetlands. These areas were intermixed with jurisdictional and

non-jurisdictional areas and were therefore mapped as a complex of wetland and non-wetland areas.

3.3.2.2 Wildlife

This section focuses on terrestrial and aquatic wildlife living in a natural, undomesticated setting. Numerous wildlife species occur or have the potential to occur at Scott AFB including more than 40 species of herpetofauna (USAF 1991) and over 230 species of birds (USACE 2002). Mammal species that may occur in the area include Eastern cottontail, woodchuck, gray and fox squirrels, white tailed deer, Virginia opossum, beaver, muskrat, raccoon, and coyote (Hoffmiester 2002).

Wildlife species found at Scott AFB are generally limited to species that have adapted to existence in a developed, semi-urban, and industrial setting. Of the 83 bird species detected during the 2001 study, the most common species observed were the Common Grackle, Downy Woodpecker, Wood Duck, Red-bellied Woodpecker and White Breasted Nuthatch. During migratory periods, the Indigo Bunting, Blue-gray Gnatcatcher and the Prothonotary Warbler were the most common species. Of special note was the presence of a Little Blue Heron and a Snowy Egret, both of which are listed as state endangered species (Martin et al. 2002).

3.3.2.3 Rare, Threatened, and Endangered Species

Table 3.3-1 lists special status species that could potentially occur in the project vicinity. It is the policy of the USAF to treat any state-listed species with the same protection afforded to the federal-listed species whenever practicable. Although not required by the federal ESA, the USAF will provide similar conservation measures for species protected by Illinois state law, when such protection is not in direct conflict with the military mission.

Recent correspondence with the IDNR revealed that no records exist of any state-listed threatened or endangered species on or adjacent to the Base. For birds, a population record typically indicates a site of known breeding or nesting because birds can occur incidentally at many sites during migration (Scott AFB 2005a). The Illinois Natural Heritage Society database does not provide a conclusive statement on the presence, absence, or condition of a listed species and does not preclude the need for field surveys. The information contained in the database is based only on the best available information at the time the database was provided.

Table 3.3-1. Threatened and Endangered Species Documented or Likely to Occur in St. Clair County, with Assessment of Potential for Occurrence on the Installation.

<i>Common Name</i>	<i>Scientific Name</i>	<i>Status</i>	<i>Potential for Occurrence</i>
PLANTS			
Decurrent false aster	<i>Boltonia decurrens</i>	FT	Low. Not known from project area. Occurs on sunlit floodplains and open wetlands.
Buffalo clover	<i>Trifolium reflexum</i>	ST	Low. Not known from project area. Occurs on dry mesic savannas, flatwoods, and prairies.
Green trillium	<i>Trillium viride</i>	SE	Low. Not known from project area. Occurs in bottomland forests.
BIRDS			
Bald Eagle	<i>Haliaeetus leucocephalus</i>	FT	Low. No known nests or roost sites within 15 miles and no open water in the project vicinity. Potential for flyovers and perching.
Short-eared Owl	<i>Asio flammeus</i>	SE	Low. No known nests or sightings in project area. Ground nesting prefers prairies.
Little Blue Heron	<i>Egretta caerulea</i>	SE	Possible. Sighted in the 2001 bird survey as migrant through the area.
Snowy Egret	<i>Egretta thula</i>	SE	Possible. Sighted in the 2001 bird survey as migrant through the area.
Common Moorhen	<i>Gallinula chloropus</i>	ST	Low. Not known from project area. Prefer open wetlands.
Loggerhead Shrike	<i>Lanius ludovicianus</i>	ST	Low. Not known from project area. Prefer open areas with windrows of trees and brush.
Yellow-crowned Night Heron	<i>Nyctanassa violacea</i>	SE	Low. Not known from project area. Prefer open water wetlands.
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	SE	Low. Not known from project area. Prefer open water wetlands.
MAMMALS			
Indiana bat	<i>Myotis sodalis</i>	FE	Possible. One individual was captured in a 2001 survey; however, no maternity colonies are known from the project area. Presence or absence of this species will be determined by future studies.
REPTILES			
Eastern massasauga	<i>Sistrurus catenatus catenatus</i>	FC	Low. Possible fragmented habitat has been documented on Scott AFB but it is unlikely that this species would occur in this fragmented habitat.

FE = Federal Endangered, FT = Federal Threatened, FC= Federal Candidate, ST = State Threatened
 Sources: IDNR 2004; INHS Database, Correspondence November 4, 2004.

3.3.2.4 Wetlands and Other Aquatic Habitat

Section 404 of the CWA established a program to regulate the discharge of dredge and fill material into waters of the U.S., including wetlands. Activities in waters of the U.S. that are regulated under this program include fills for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports), and conversion of wetlands to uplands for farming and forestry. EO 11990, *Protection of Wetlands*, requires federal agencies, including the USAF, to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands.

In July 2004, in coordination with the St. Louis District USACE, the 375 CES/CEV conducted a formal wetland delineation of all areas on Scott AFB (Scott AFB 2005b). Twenty-one wetlands were observed and delineated during the 2004 field activities. These wetlands were generally characterized as palustrine forested wetland communities, located within the forested floodplain of Silver Creek. Additional wetlands observed included isolated palustrine emergent (i.e., marshes) areas in various developed and undeveloped areas of the Base. The USACE determined that man-made surface waters such as Scott Lake, Cardinal Lake, irrigation ponds, and golf course ponds that were constructed in mapped upland soils should be considered nonjurisdictional waters. Additionally, isolated wetlands would also be considered nonjurisdictional. This designation extends to nearly all of these waters and wetlands not located within the Silver Creek floodplain, except the pond and wetlands along both sides of Golf Course Road in front of the clubhouse.

With regard to streams, it was determined that essentially every stream on Scott AFB has been channelized. The USACE indicated that these channels would be considered “waters of the U.S.” if historical stream flow could be identified on historical aerial photography. As part of the delineation, historical aerial photographs were evaluated and it was determined that all swales and streams would meet the jurisdictional criteria with the exception of one man-made swale located south of MidAmerica Airport Taxiway within the flight line (Scott AFB 2005b).

3.4 AIR QUALITY

3.4.1 DEFINITION OF THE RESOURCE

This section discusses air quality considerations and conditions in the area surrounding Scott AFB in St. Clair County, Illinois. It addresses air quality standards and describes current air quality conditions in the region.

Federal Air Quality Standards. Air quality is determined by the type and concentration of pollutants in the atmosphere, the size and topography of the air basin, and local and regional meteorological influences. The significance of a pollutant concentration in a region or

geographical area is determined by comparing it to federal and/or state ambient air quality standards. Under the authority of the CAA, the USEPA has established nationwide air quality standards to protect public health and welfare, with an adequate margin of safety.

These federal standards, known as the NAAQS, represent the maximum allowable atmospheric concentrations and were developed for six “criteria” pollutants: O₃, NO₂, CO, respirable particulate matter less than or equal to 10 micrometers in diameter (PM₁₀), SO₂, and Pb. The NAAQS are defined in terms of concentration (e.g., parts per million [ppm] or micrograms per cubic meter [µg/m³]) determined over various periods of time (averaging periods). Short-term standards (1-hour, 8-hour, or 24-hour periods) were established for pollutants with acute health effects and may not be exceeded more than once a year. Long-term standards (annual periods) were established for pollutants with chronic health effects and may never be exceeded. Primary standards, as shown in Table 3.4-1, set limits to protect public health, including the health of sensitive populations, such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, vegetation, and buildings.

Based on measured ambient criteria pollutant data, the USEPA designates areas of the U.S. as having air quality equal to or better than the NAAQS (attainment) or worse than the NAAQS (nonattainment). Upon achieving attainment, areas are considered to be in maintenance status for a period of 10 or more years. Areas are designated as unclassifiable for a pollutant when there is insufficient ambient air quality data for the USEPA to form a basis of attainment status. For the purpose of applying air quality regulations, unclassifiable areas are treated similar to areas that are in attainment of the NAAQS.

On April 15, 2004, the USEPA promulgated attainment designations for the newly established 8-hour O₃ standard effective as of June 15, 2004. Meanwhile, states must continue to implement existing plans developed under the 1-hour standard during the transition to the new 8-hour standard. On December 17, 2004, the USEPA designated areas as attainment or nonattainment for the newly developed standard for respirable particulate matter less than or equal to 2.5 micrometers in diameter (PM_{2.5}), which are fine particulates that have not been previously regulated (USEPA 2005).

State Air Quality Standards. Under the CAA, state and local agencies may establish ambient air quality standards (AAQS) and regulations of their own, provided that these are at least as stringent as the federal requirements. The State of Illinois has air quality standards that are virtually identical to the federal standards, except that the new federal PM_{2.5} and 8-hour O₃ standards do not have an Illinois equivalent. A summary of the NAAQS that apply to the proposed project area is presented in Table 3.4-1.

Table 3.4-1. National and Illinois Ambient Air Quality Standards

<i>Air Pollutant</i>	<i>Averaging Time</i>	NAAQS	
		<i>Primary</i>	<i>Secondary</i>
Carbon Monoxide (CO)	8-hour 1-hour	9 ppm (10 µg/m ³) 35 ppm (40 µg/m ³)	--- ---
Nitrogen Dioxide (NO ₂)	AAM	0.053 ppm (100 µg/m ³)	0.053 ppm (100 µg/m ³)
Sulfur Dioxide (SO ₂)	AAM 24-hour 3-hour	0.03 ppm (80 µg/m ³) 0.14 ppm (365 µg/m ³) ---	--- --- 0.5 ppm (1,300 µg/m ³)
Particulate Matter (PM ₁₀)	AAM 24-hr	50 µg/m ³ 150 µg/m ³	50 µg/m ³ 150 µg/m ³
Particulate Matter (PM _{2.5}) ^(a)	AAM 24-hour	15 µg/m ³ 65 µg/m ³	15 µg/m ³ 65 µg/m ³
Ozone (O ₃) ^(b)	1-hour 8-hour	0.12 ppm 0.08 ppm	0.12 ppm 0.08 ppm
Lead (Pb) & Lead Compounds	3-month	1.5 µg/m ³	1.5 µg/m ³

Notes: AAM = Annual Arithmetic Mean; ppm = parts per million; µg/m³ = micrograms per cubic meter.

(a) The PM_{2.5} standard (particulate matter with a 2.5 µm diameter or smaller) were promulgated in December 2004 and are effective as of 5 April 2005. The standard will be implemented over the next few years. The State of Illinois has not yet adopted this standard.

(b) The 8-hour O₃ standard will replace the 1-hour standard in June 2005, one year after the effective date of EPA's recent nonattainment designations. Meanwhile, states must continue to implement existing plans developed under the 1-hour standard during the transition to the new 8-hour standard. The State of Illinois has not yet adopted this standard.

Sources: 40 Code of Federal Regulations 50; Illinois Administrative Code (IAC) 1992.

State Implementation Plan. For non-attainment regions, the states are required to develop an SIP designed to eliminate or reduce the severity and number of NAAQS violations, with an underlying goal to bring state air quality conditions into (and maintain) compliance with the NAAQS by specific deadlines. The SIP is the primary means for the implementation, maintenance, and enforcement of the measures needed to attain and maintain the NAAQS in each state.

Prevention of Significant Deterioration (PSD). Section 162 of the CAA further established the goal of prevention of significant deterioration (PSD) of air quality in all international parks; national parks which exceeded 6,000 acres; and national wilderness areas and memorial parks which exceeded 5,000 acres if these areas were in existence on August 7, 1977. These areas were defined as mandatory Class I areas, while all other attainment or unclassifiable areas were defined as Class II areas. Under CAA Section 164, states or tribal nations, in addition to the

federal government, have the authority to redesignate certain areas as (non-mandatory) PSD Class I areas, e.g., a national park or national wilderness area established after August 7, 1977, which exceeds 10,000 acres. PSD Class I areas are areas where any appreciable deterioration of air quality is considered significant. Class II areas are those where moderate, well-controlled growth could be permitted. Class III areas are those designated by the governor of a state as requiring less protection than Class II areas. No Class III areas have yet been so designated. The PSD requirements affect construction of new major stationary sources in the PSD Class I, II, and III areas and are a pre-construction permitting system.

Visibility. CAA Section 169A established the additional goal of prevention of further visibility impairment in PSD Class I areas. Visibility impairment is defined as a reduction in the visual range and atmospheric discoloration. Determination of the significance of an activity on visibility in a PSD Class I area is typically associated with evaluation of stationary source contributions. The USEPA is implementing a Regional Haze rule for PSD Class I areas that will address contributions from mobile sources and pollution transported from other states or regions.

Emission levels are used to qualitatively assess potential impairment to visibility in PSD Class I areas. Decreased visibility may potentially result from elevated concentrations of PM₁₀ and SO₂ in the lower atmosphere.

General Conformity. CAA Section 176(c), General Conformity, established certain statutory requirements for federal agencies with proposed federal activities to demonstrate conformity of the proposed activities with each state's SIP for attainment of the NAAQS. Federal activities must not:

- (a) cause or contribute to any new violation;
- (b) increase the frequency or severity of any existing violation; or
- (c) delay timely attainment of any standard, interim emission reductions, or milestones in conformity to a SIP's purpose of eliminating or reducing the severity and number of NAAQS violations or achieving attainment of NAAQS.

General conformity applies only to nonattainment and maintenance areas. If the emissions from a federal action proposed in a nonattainment area exceed annual thresholds identified in the rule, a conformity determination is required of that action. The thresholds become more restrictive as the severity of the nonattainment status of the region increases.

Stationary Source Operating Permits. In Illinois, the Illinois EPA, Bureau of Air, is responsible for identifying air pollution problems, proposing appropriate regulations, conducting inspections, and reviewing permit applications. Title V of the CAA Amendments of 1990

requires states to issue Federal Operating Permits for major stationary sources. A major stationary source in an attainment or maintenance area is a facility (i.e., plant, base, or activity) that emits more than 100 tons per year (TPY) of any one criteria air pollutant, 10 TPY of a hazardous air pollutant, or 25 TPY of any combination of hazardous air pollutants. Thresholds are lower for pollutants for which a region is in nonattainment status. The purpose of the permitting rule is to establish regulatory control over large, industrial activities and to monitor their impact upon air quality. Illinois's Title V program and other air program laws, including licensing (i.e., permitting) are found in IAC Title 35, Subtitle B.

3.4.2 EXISTING CONDITIONS

Regional Air Quality. Federal regulations at 40 CFR 81 delineate certain air quality control regions (AQCRs), which were originally designated based on population and topographic criteria closely approximating each air basin. The potential influence of emissions on regional air quality would typically be confined to the air basin in which the emissions occur. Therefore, the ROI for the Proposed Action is the Metropolitan St. Louis Interstate AQCR (AQCR 70), which includes Bond, Clinton, Madison, Monroe, Randolph, St. Clair, and Washington Counties in Illinois; and Franklin, Jefferson, St. Charles, and St. Louis Counties, plus the city of St. Louis in Missouri (40 CFR 81.18; 40 CFR 81, Appendix A).

Attainment Status. A review of federally published attainment status for Illinois in 40 CFR 81.314 indicated that St. Clair County is designated as attainment (i.e., meeting national standards) for CO, NO₂, SO₂, PM₁₀, and Pb, and nonattainment for the new PM_{2.5} and 8-hour O₃ standards. For O₃, the region was in maintenance status for the old 1-hour standard, having achieved attainment on 13 May 2003. Although the 1-hour O₃ standard was revoked on 15 June 2005, certain control measures remain in place until the 8-hour standard can be fully implemented (personal communication, Kaleel 2005). Control measures in the St. Louis metropolitan area include gasoline vapor recovery systems; controls on industry; centralized inspection of car emissions; the use of cleaner fuels throughout the region; and a range of transportation control measures, which include traffic flow improvement projects, intelligent transportation system and regional ridesharing program (East-West Gateway Council of Governments 2005).

PSD Class I Areas. No mandatory federal PSD Class I areas are located within the ROI. The nearest PSD Class I area is the Mingo National Wildlife Refuge, which is located in southeast Missouri near the town of Puxico, along the Mississippi River, 107 miles south of St. Clair County. Sensitive air quality related values in the bottomland hardwood swamp, which is administered by the USFWS, include vegetation, wildlife, soils, water quality, visibility, odor, and cultural and archaeological resources (National Park Service 2005). Additional PSD Class I areas in the region include the Hercules-Glade Wilderness, which is 210 miles to the southwest

of Scott AFB; the Upper Buffalo Wilderness, which is 216 miles to the south-southwest; and Mammoth Cave National Park, which is 222 miles east of Scott AFB.

Climate. Both the warm moist air from the Gulf of Mexico and the cold air masses originating in Canada affect the climate in southern Illinois, including St. Clair County and the St. Louis metropolitan area. Summers are warm and humid, with temperatures of 90 degrees Fahrenheit (°F) or higher occurring 35 to 40 days per year (with at most five days of 100°F temperatures or more per year). Winter temperatures drop below 0 °F only two or three days per year with temperatures below freezing occurring approximately 25 days per year. Snowfall averages 18 inches per winter. Normal precipitation is approximately 34 inches per year. Winter months are the driest, with March through May being the wettest months of the year. Thunderstorms occur 40 to 50 days per year, with a few each year producing large hail and damaging winds. Winds in St. Clair County average 10 to 12 miles per hour from the west-northwest during the months of November through April, and 7 to 9 miles per hour from the south during May through October (National Oceanic and Atmospheric Administration 1998; National Weather Service 2005).

Current Emissions. Air emissions at Scott AFB include those from stationary and mobile sources. The stationary sources include combustion sources, fuel storage and transfer, and operational sources. The mobile sources include vehicles and aircraft operations. Baseline emissions for the Base are presented in Table 3.4-2. In this table, nitrogen oxides (NO_x) include NO₂ and other nitrogen compounds; and sulfur oxides (SO_x) include SO₂ and other sulfur compounds. Because volatile organic compounds (VOCs) and NO_x are precursors to the formation of O₃ in the atmosphere, control of these pollutants is the primary method of reducing O₃ concentrations in the atmosphere. PM₁₀ includes PM_{2.5} and may be used as an upper limit for PM_{2.5} emissions. Scott AFB is a synthetic minor source of air pollution, with a Federally Enforceable State Operating Permit (FESOP) maintaining its potential emissions from stationary sources below major source levels. The permit covers five jet fuel storage tanks equipped with internal floating roofs, diesel emergency power generator and natural gas-fired equipment, a jet engine test cell, 11 gasoline storage tanks, one ethylene glycol storage tank, an indoor shooting range controlled by a bag house (a fabric filter system configured in cylindrical “bags,” which remove dust from a gas stream), and one sulfur dioxide generator.

Regional Air Emissions. The previous section lists on-Base emissions for Scott AFB in St. Clair County, Illinois. The NEPA process, however, must also consider impacts from indirect emissions from stationary and mobile sources related to the project, some of which (for example, commuting of new employees to and from the facility) occur outside of the installation. For comparison purposes, Table 3.4.3 lists county-wide emissions for St. Clair County, Illinois, and for AQCR 70 (which includes St. Clair County), as compiled by the USEPA in its National Emissions Inventory (NEI), which was last updated in 1999 (USEPA 2003). The 1999 NEI

contains estimates of annual emissions for stationary and mobile sources of air pollutants in each county.

Table 3.4-2. Baseline Emissions at Scott AFB, calendar year 2004

	ANNUAL EMISSIONS (TPY)				
	<i>CO</i>	<i>VOC</i>	<i>NO_x</i>	<i>SO_x</i>	<i>PM₁₀</i>
Abrasive blasting	-	-	-	-	< 1
Aerospace ground equipment	2	< 1	5	< 1	< 1
Aircraft operations	411	240	54	16	34
Asphalt paving operations	-	2	-	-	-
Degreasing	-	< 1	-	-	-
External combustion	7	< 1	8	< 1	1
Fire training	< 1	< 1	< 1	-	< 1
Fuel cell maintenance	-	< 1	-	-	-
Fuels dispensing/loading	-	29	-	-	-
Internal combustion	3	1	13	< 1	< 1
Jet engine testing	< 1	< 1	< 1	< 1	< 1
Landfill	< 1	-	-	-	-
Munitions and firearms	< 1	-	-	-	-
Paint gun cleaning	-	< 1	-	-	-
Storage tanks	-	8	-	-	-
Surface coating	-	< 1	-	-	< 1
Vehicle emissions	116	10	15	1	1
Woodworking	-	-	-	-	< 1
Wet cooling towers	-	-	-	-	< 1
<i>TOTAL</i>	<i>539</i>	<i>291</i>	<i>96</i>	<i>17</i>	<i>36</i>

Source: Scott AFB 2005c

**Table 3.4.3. Air Emissions Inventory St. Clair County, Illinois, and AQCR 70
Calendar Year 1999**

	POLLUTANTS (IN TPY)				
	<i>CO</i>	<i>VOC</i>	<i>NO_x</i>	<i>SO₂</i>	<i>PM₁₀</i>
St. Clair County, IL					
Stationary Sources	4,480	7,289	1,369	3,457	14,201
Mobile Sources	89,407	6,982	11,260	663	439
AQCR 70					
Stationary Sources	81,499	67,595	144,330	475,626	207,382
Mobile Sources	774,394	64,744	104,351	6,133	4,199

Source: USEPA 2003

3.5 NOISE

3.5.1 DEFINITION OF RESOURCE

Noise is considered to be unwanted sound that interferes with normal activities or otherwise diminishes the quality of the environment. It may be intermittent or continuous, steady or impulsive. It may be stationary or transient. Stationary sources are normally related to specific land uses, e.g., housing tracts or industrial plants. Transient noise sources move through the environment, either along relatively established paths (e.g., highways, railroads, and aircraft flight tracks around airports), or randomly. There is wide diversity in responses to noise that not only vary according to the type of noise and the characteristics of the sound source, but also according to the sensitivity and expectations of the receptor, the time of day, and the distance between the noise source (e.g., an aircraft) and the receptor (e.g., a person or animal).

The physical characteristics of noise, or sound, include its intensity, frequency, and duration. Sound is created by acoustic energy, which produces minute pressure waves that travel through a medium, like air, and are sensed by the ear drum. This may be likened to the ripples in water that would be produced when a stone is dropped into it. As the acoustic energy increases, the intensity or amplitude of these pressure waves increase, and the ear senses louder noise. The unit used to measure the intensity of sound is the decibel (dB). Sound intensity varies widely (from a soft whisper to a jet engine) and is measured on a logarithmic scale to accommodate this wide range. The logarithm, and its use, is nothing more than a mathematical tool that simplifies dealing with very large and very small numbers. For example, the logarithm of the number 1,000,000 is 6, and the logarithm of the number 0.000001 is -6. Obviously, as more zeros are added before or after the decimal point, converting these numbers to their logarithms greatly simplifies calculations that use these numbers.

The frequency of sound is measured in cycles per second, or hertz (Hz). This measurement reflects the number of times per second the air vibrates from the acoustic energy. Low frequency sounds are heard as rumbles or roars, and high frequency sounds are heard as screeches. Sound measurement is further refined through the use of “A-weighting.” The normal human ear can detect sounds that range in frequency from about 20 Hz to 15,000 Hz. However, all sounds throughout this range are not heard equally well. Therefore, through internal electronic circuitry, some sound meters are calibrated to emphasize frequencies in the 1,000 to 4,000 Hz range. The human ear is most sensitive to frequencies in this range, and sounds measured with these instruments are termed “A-weighted,” and are shown in terms of A-weighted decibels (dBA).

The duration of a noise event, and the number of times noise events occur, are also important considerations in assessing noise impacts.

As a basis for comparison when noise levels are considered, it is useful to note that at distances of about 3 feet, noise from normal human speech ranges from 63 to 65 dB, operating kitchen appliances range from about 83 to 88 dB, and rock bands approach 110 dB.

The word “metric” is used to describe a standard of measurement. As used in environmental noise analysis, there are many different types of noise metrics. Each metric has a different physical meaning or interpretation and each metric was developed by researchers attempting to represent the effects of environmental noise.

The metrics supporting the assessment of noise from aircraft operations associated with the proposals assessed in this document are the maximum sound level (L_{\max}), the Sound Exposure Level (SEL), and Time-Averaged Sound Levels. Each metric represents a “tier” for quantifying the noise environment, and is briefly discussed below.

3.5.1.1 Maximum Sound Level

The L_{\max} metric defines peak noise levels. L_{\max} is the highest sound level measured during a single noise event (e.g., an aircraft overflight), and is the sound actually heard by a person on the ground. For an observer, the noise level starts at the ambient noise level, rises up to the maximum level as the aircraft flies closest to the observer, and returns to the ambient level as the aircraft recedes into the distance. Maximum sound level is important in judging a noise event’s interference with conversation, sleep, or other common activities.

This document considers noise from aircraft operating around airfields. Around airfields, the primary operational modes of aircraft are departures (take-offs) and arrivals (landings). Table 3.5-1 shows L_{\max} values at various distances associated with typical military and civilian aircraft operating at Scott AFB and MidAmerica Airport.

Table 3.5-1. Representative Maximum Sound Levels

<i>Aircraft and Power Type</i>	L_{MAX} VALUES (IN DBA) AT VARYING DISTANCES (IN FEET)				
	500	1,000	2,000	5,000	10,000
KC-135E Takeoff	110.3	101.9	92.3	79.0	68.9
KC-135E Landing	108.6	100.3	90.1	71.7	58.1
KC-135R Takeoff	93.9	87.1	79.8	68.9	59.1
KC-135R Landing	90.4	83.4	75.8	64.4	54.2
B-727 Takeoff	112.8	106.0	98.8	88.0	78.7
B-727 Landing	86.6	79.4	71.9	60.8	51.1
Lear 35 Takeoff	96.6	89.4	81.6	69.7	59.0
Lear 35 Landing	81.9	74.3	66.1	54.0	44.0

Source: OMEGA108

3.5.1.2 Sound Exposure Level

L_{max} alone may not represent how intrusive an aircraft noise event is because it does not consider the length of time that the noise persists. The SEL metric combines intensity and duration into a single measure. It is important to note, however, that SEL does not directly represent the sound level heard at any given time, but rather provides a measure of the total exposure of the entire event. Its value represents all of the acoustic energy associated with the event, as though it was present for one second. Therefore, for sound events that last longer than one second, the SEL value will be higher than the L_{max} value. The SEL value is important because it is the value used to calculate other time-averaged noise metrics. Table 3.5-2 shows SEL values corresponding to the aircraft and power settings reflected in Table 3.5-1.

Table 3.5-2. Representative Sound Exposure Levels

<i>Aircraft and Power Type</i>	SEL VALUES (IN DBA) AT VARYING DISTANCES (IN FEET)				
	500	1,000	2,000	5,000	10,000
KC-135E Takeoff	113.2	106.6	98.8	87.9	79.6
KC-135E Landing	110.6	104.1	95.7	79.7	67.8
KC-135R Takeoff	97.2	92.2	86.7	78.2	70.2
KC-135R Landing	96.0	90.8	85.0	76.0	97.6
B-727 Takeoff	117.0	112.1	106.7	98.3	90.8
B-727 Landing	92.1	86.8	81.1	72.3	64.5
Lear 35 Takeoff	102.5	97.1	91.1	81.6	72.7
Lear 35 Landing	87.6	81.8	75.4	65.7	57.5

Source: OMEGA108

3.5.1.3 Time-Averaged Cumulative Noise Metrics

The number of times noise events occur during given periods is also an important consideration in assessing noise impacts. The “cumulative” noise metric supporting the analysis of multiple time-varying noise events is the Day-Night Average Sound Level (L_{dn}).

Day-Night Average Sound Level

This metric sums the individual noise events and averages the resulting level over a specified length of time. Thus, it is a composite metric which considers the maximum noise levels, the duration of the events, the number of events that occur, and the time of day during which they occur. This metric adds 10 dB to those events that occur between 10:00 p.m. and 7:00 a.m. to account for the increased intrusiveness of noise events that occur at night when ambient noise levels are normally lower than during the day time. This cumulative metric does not represent the variations in the sound level heard. Nevertheless, it does provide an excellent measure for comparing environmental noise exposures when there are multiple noise events to be considered.

Finally, it should be noted that ambient background noise is not considered in the noise calculations that are presented below. There are two reasons for this. First, ambient background noise, even in wilderness areas, varies widely, depending on location and other conditions. For example, studies conducted in an open pine forest in the Sierra National Forest in California have measured up to a 10 dBA variance in sound levels simply due to an increase in wind velocity (Harrison 1973). Therefore, assigning a value to background noise would be arbitrary. Secondly, and probably most important, is that it is reasonable to assume that ambient background noise in the project’s ROI would have little or no effect on the calculated L_{dn} . In calculating noise levels, louder sounds dominate the calculations, and overall, aircraft and other transportation-related noise would be expected to be the dominant noise sources characterizing the acoustic conditions in the region.

Using measured sound levels as a basis, the USAF developed several computer programs to calculate noise levels resulting from aircraft operations. Sound levels calculated by these programs have been extensively validated against measured data, and have been proven to be highly accurate.

In this document, the sound levels calculated for aircraft operations in an airfield environment are all L_{dn} . L_{dn} metrics are the preferred noise metrics of the Department of Housing and Urban Development, the Department of Transportation, the Federal Aviation Administration, the USEPA, and the Veteran’s Administration.

Ignoring the night-time penalty for the moment, L_{dn} may be thought of as the continuous or cumulative dBA that would be present if all of the variations in sound level that occur over the

given period were smoothed out so as to contain the same total sound energy. While L_{dn} does provide a single measure of overall noise impact, it is fully recognized that it does not provide specific information on the number of noise events or the specific individual sound levels that occur. For example, an L_{dn} of 65 dB could result from a very few noisy events, or a large number of quieter events. Although it does not represent the sound level heard at any one particular time, it does represent the total sound exposure. Scientific studies and social surveys have found the L_{dn} to be the best measure to assess levels of community annoyance associated with all types of environmental noise. Therefore, its use is endorsed by the scientific community and governmental agencies (American National Standards Institute 1980, 1988; USEPA 1974; Federal Interagency Committee on Urban Noise 1980; Federal Interagency on Noise 1992).

The ROI for the noise analysis are the areas around Scott AFB and MidAmerica Airport that are exposed to aviation-related noise resulting from activities in the region.

3.5.2 EXISTING CONDITIONS

Public annoyance is the most common concern associated with exposure to elevated noise levels. When subjected to L_{dn} levels of 65 dBA, approximately 12 percent of the persons so exposed will be “highly annoyed” by the noise. At levels below 55 dBA, the percentage of annoyance is significantly lower (less than 3 percent), and at levels above 70 dBA, it is significantly higher (greater than 25 percent) (Finegold et al. 1994). Table 3.5-3 shows the percentage of the population expected to be highly annoyed at a range of noise levels.

Table 3.5-3. Percentage of Population Highly Annoyed By Elevated Noise Levels

<i>Noise Exposure (L_{dn} in dBA)</i>	<i>Percent Highly Annoyed</i>
< 65	< 12
65 – 70	12 – 21
70 – 75	22 – 36
75 – 80	37 – 53
80 – 85	54 – 70
> 85	> 71

Source: Finegold et al. 1994

3.5.2.1 Aircraft Activity

The following terms are defined to provide a better understanding of how data are developed for input to the various noise models used to calculate noise.

Around an airfield, ***aircraft operations*** are categorized as takeoffs, landings, or closed patterns (which could include activities referred to as touch-and-gos or low approaches). Each takeoff or

landing constitutes one operation. A *closed pattern* occurs when the pilot of the aircraft approaches the runway as though planning to land, but then applies power to the aircraft and continues to fly as though taking off again. The pilot then flies a circular or rectangular track around the airfield, and again approaches for landing. In some cases, the pilot may actually land on the runway before applying power, or in other cases the pilot simply approaches very close to the ground. In either event, since a closed pattern operation essentially consists of a landing and a takeoff, it is considered two operations.

Scott AFB and MidAmerica Airport are co-located aviation facilities located near Belleville, Illinois. Scott AFB and its associated runway are situated in the western portion of the complex; MidAmerica Airport is situated to the east. Under current conditions, the two facilities support military and civil aviation activity. Together, the two facilities support approximately 125 daily aviation operations. Considering all types of flight activities, a scenario representing an “average day’s” operations was developed. The operations considered include arrivals (landings), departures (takeoffs), and closed patterns. Noise calculations consider the frequency of flight operations, runway utilization, and the flight tracks and flight profiles flown by each aircraft. The numbers and types of representative operations considered are shown in Table 3.5-4.

Table 3.5-4. Average Daily Operations at Scott AFB/MidAmerica Airport¹

<i>Aircraft</i>	ARRIVALS		DEPARTURES		CLOSED PATTERNS ²	
	<i>Day</i>	<i>Night</i>	<i>Day</i>	<i>Night</i>	<i>Day</i>	<i>Night</i>
KC-135E	4.061	0.451	4.505	0.007	12.183	1.354
Other Based Military	7.185	0.526	7.638	0.077	9.914	0
Transient Military	5.007	0.039	5.007	0.039	0	0
Air Carrier / Air Taxi	2.443	0	2.443	0	0	0
General Aviation	5.524	0	5.515	0	13.662	0
Total	24.220	1.016	25.108	0.123	35.759	1.354

- Notes: 1. Daily operations are based on averages of annual operations; therefore, numbers do not round.
2. Because closed patterns consist of a landing and a takeoff (two aviation operations), the 37.113 closed patterns shown equate to 74.226 aviation operations.

Sources: USAF 2001; personal communication, Newman 2004.

These levels and types of activity are then combined with information on climatology, maintenance activities, and aircraft flight parameters, and processed through the Air Force’s BASEOPS/NOISEMAP (Moulton 1990) computer models to calculate L_{dn} . Once noise levels are calculated, they are plotted on a background map in 5-dB increments from 65 dBA to 85 dBA, as applicable. Noise contours associated with current activities at Scott AFB/MidAmerica

Airport are shown in Figure 3.5-1. The land area (in acres) encompassed by each contour is shown in Table 3.5-5.

Table 3.5-5. Land Area Exposed To Indicated Sound Levels

<i>Sound Level (In L_{dn})</i>	<i>Acres of Land ¹</i>
65 – 70	1736.10
70 – 75	850.09
75 – 80	410.52
80 – 85	193.73
> 85	81.26

Note: 1. Land areas exposed to indicated sound levels. Total area exposed to L_{dn} 65 or greater is approximately 3,271.7 acres.

Source: Wasmer and Maunsell 2002.

3.5.2.2 Ground-Based Activity

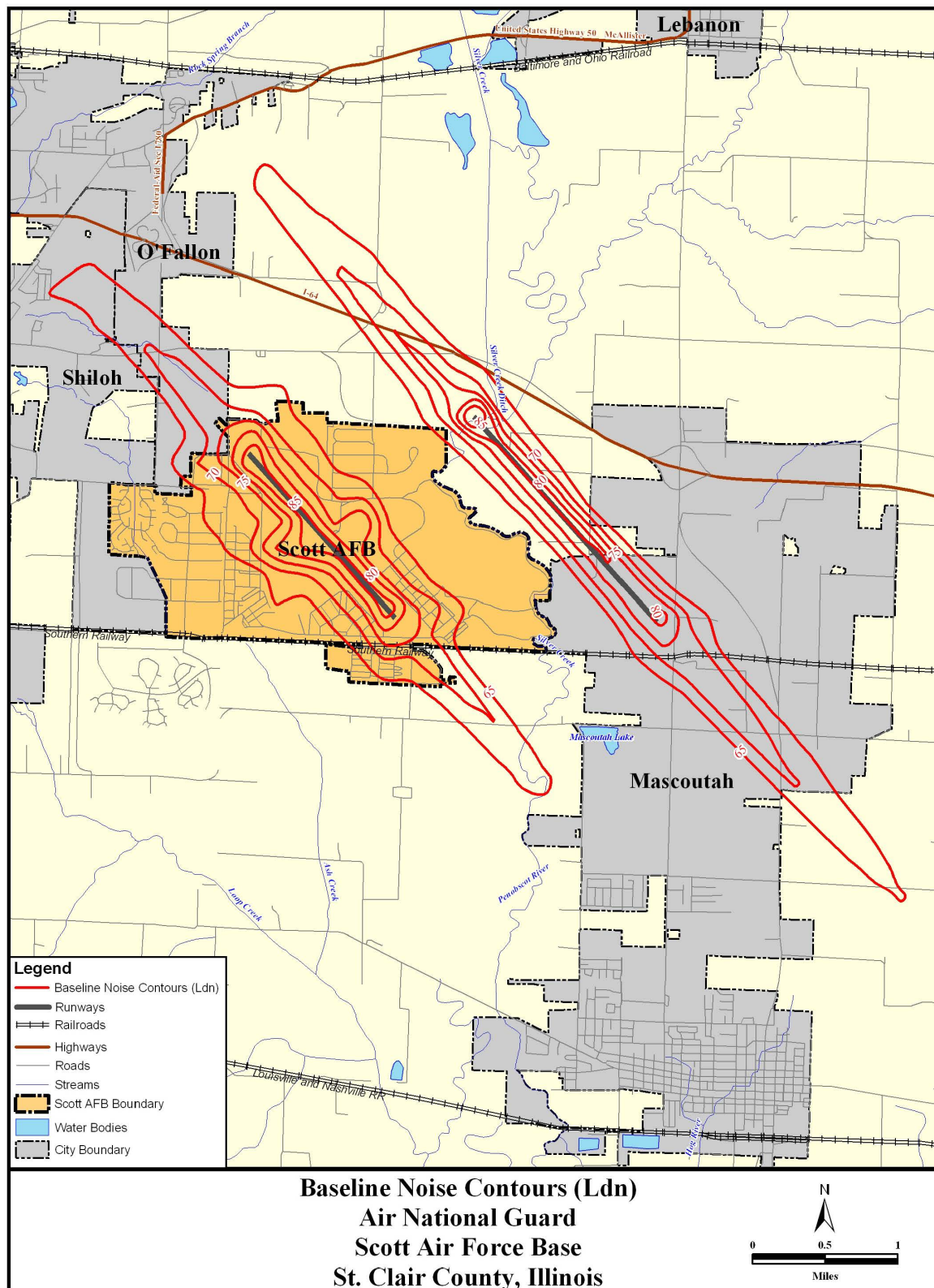
Some additional noise results from day-to-day activities associated with operations, maintenance, and the industrial functions associated with the operation of the airport. These noise sources include the operation of ground-support equipment, and other transportation noise from vehicular traffic. However, this noise is generally localized in industrial areas on or near the airfield, or on established routes supporting traffic to-and-from the airfield. Noise resulting from aircraft operations remains the dominant noise source in the airfield region.

3.6 LAND USE AND VISUAL RESOURCES

3.6.1 DEFINITION OF RESOURCE

3.6.1.1 Land Use

Land use classifications reflect either natural or human activities occurring at a given location. Land use resulting from human activities includes residential, commercial, industrial, airfield, recreational, agriculture, and other developed areas. Natural uses include resource production such as forestry, mining, or agriculture, and resource protection such as conservation areas, wildlands, and parks. Management plans, policies, and regulations regulate the type and extent of land use allowable in specific areas and protection specially designated for environmentally sensitive areas. The ROI for land use for the Proposed Action includes the lands of Scott AFB and the 126 ARW installation and adjacent properties in St. Clair County.



3.6.1.2 Visual Resources

Visual resources refer to the natural and constructed features that give a particular environment its aesthetic qualities. In undeveloped areas, landforms, water surfaces, and vegetation are the primary components that characterize the landscape. Constructed elements such as buildings, fences, and streets may also be visible. These may dominate the landscape or be relatively unnoticeable. Attributes used to describe the visual resource value of an area include landscape character, perceived aesthetic value, and uniqueness.

In developed areas, the natural landscape is likely to provide a background for more obvious constructed features. The size, forms, materials, and functions of buildings, structures, roadways, and infrastructure, along with surrounding landscape features, define the visual context of an area. These features form the overall impression that an observer receives of its visual character. Some urbanized areas or developments prescribe standards or goals for achieving or preserving visual quality. In urban areas, there may be ordinances or zoning provisions that guide physical development.

In non urban contexts, laws (such as the Wilderness Act or the National Wild and Scenic Rivers Act) and management objectives protect scenic quality of some special areas. Federal land managers also clarify the scenic value of lands in accordance with federal land management regulations.

The ROI for visual resources includes all locations within the viewshed (i.e., with line-of-sight) to or from the project areas on the 126 ARW installation at Scott AFB.

3.6.2 EXISTING CONDITIONS

3.6.2.1 Land Use

Scott AFB and MidAmerica Airport

Scott AFB is 3,589 acres in areal extent, located in a predominantly agricultural portion of western Illinois. The Base is located immediately south of Interstate 64 (I-64) (Figure 1.3-1), near the cities of O'Fallon and Belleville. The Base is adjacent to the MidAmerica Airport. The airport was built as a cooperative effort with Scott AFB, and has a 10,000-foot runway that serves some military customers, in addition to functioning as a commercial passenger and cargo airport. Scott AFB and MidAmerica Airport share runways through Joint Use Agreements, effectively providing a parallel runway system. The 126 ARW is located in the northeastern quadrant of Scott AFB, and generally west of MidAmerica Airport. The 126 ARW installation occupies about 133 acres, and is entirely surrounded by Scott AFB property.

The functional land uses within the 126 ARW parcel include airfield, aircraft operations and maintenance, administrative, industrial, and open space. Immediately to the west is the golf course, to the north is former family housing (now open space) and open recreational uses focused around Scott Lake. Directly to the east are administrative and mission-related aircraft facilities. The airfield is located along the southwest boundary of the 126 ARW parcel. None of the 126 ARW land or facilities is within airfield or munitions safety setback zones or buffers.

The General Plan for Scott AFB indicates that the golf course will be reconfigured using part of the former housing area to the north of the 126 ARW parcel. This area will also be developed with a new golf club house and other outdoor recreational facilities, and with administrative facilities for a new Network Operations facility. Immediately to the east of the 126 ARW, a new headquarters facility will be constructed. All these planned changes are compatible with uses on the 126 ARW parcel (375 AW 2004a).

The 126 ARW parcel is easily accessible from I-64 via the Shiloh or Belleville Gates. Within the Base, Scott School Road leads directly into the 126 ARW installation. The 126 ARW is also on the bus route linking to the light rail system on the south side of Scott AFB. The rail line provides access to St. Louis, 20 miles to the west.

Areas Surrounding the Scott AFB and MidAmerica Airport

Areas surrounding Scott AFB and MidAmerica Airport were historically tall grass prairie. Most of the surrounding suitable land has been converted for agricultural use for several decades. Agricultural land is interspersed with wetlands and wooded areas, and small rural communities. Employment opportunities at the Base and in St. Louis have expanded the economic base for these communities, and supported continued growth (375 AW 2004a).

Most of the land immediately adjacent to the Base and airport is within the County of St. Clair. Surrounding municipalities include the City of O'Fallon, the Village of Shiloh, and the City of Mascoutah. The City of O'Fallon has a Comprehensive Plan and growth is being directed toward the northwest, away from the airport area. The Village of Shiloh, to the west, considers airport activities in its zoning process. The City of Mascoutah, to the southeast, has incorporated recommended compatible land use concepts into its zoning. Some residential development on the north edge of Mascoutah (south of MidAmerica Airport) may be a future concern. Growth is being encouraged along the I-64 corridor (375 AW 2004a).

Airport Land Use Planning

The Air Installation Compatible Use Zone (AICUZ) program has established land use compatibility guidelines that are similar to those used by the Federal Aviation Administration. The guidelines have been used by the County and local jurisdictions in planning and zoning to

prevent future incompatible development around the airport complex. Currently, there is some existing residential use within the Base's Accident Potential Zone (APZ) I and residential and quasi-public use in the APZ II (Scott AFB 2004a). Some residences on the northwest side of the airfield complex are exposed to noise levels above 65 L_{dn} .

Because of the economic importance of the Base and MidAmerica Airport, St. Clair County, in cooperation with the Base and surrounding communities, has developed an Airport Environs Overlay Zone (AEOZ) to guide and limit the development of incompatible land uses around the airfield (Scott AFB 2004c). St. Clair County owns the land immediately north of the airport and Base, and serves as a buffer from future encroachment. The County has actively pursued legislation to enable the County to acquire land through eminent domain in order to preclude encroachment on airport facilities and uses. St. Clair County's Future Land Use Plan Sub-Area plan for the Scott-Joint Use Area defines compatible uses for lands outside airport and the military-owned lands. Table 3.6-1 provides information on future land use recommendations from the Sub-Area plan.

Table 3.6-1. Existing and Recommended Land Uses Surrounding Scott AFB

<i>Orientation from Scott AFB</i>	<i>Existing Land Use</i>	<i>St. Clair County Future Land Use Recommendation</i>
North	MidAmerica Airport aviation facilities	Maintain aviation use
South	Sparsely populated City of Mascoutah influences land use patterns south of Scott AFB	Continue rural residential, recreational, and industrial uses
East	MidAmerica Airport aviation facilities Highway related commercial uses within I-64/Illinois Route 4 interchange	Continue commercial highway land uses for area around highway interchange
West	Agricultural use immediately west of Air Mobility Drive Further west, a mix of residential and commercial uses associated with Village of Shiloh	Implement/allow regional commercial land use for the area along the west side of Air Mobility Drive

3.6.2.2 Visual Resources

Scott AFB is located in a rural area in central Illinois. The surrounding land has slightly undulating terrain. The area is characterized by agricultural land, with interspersed natural areas

of wetlands and woods, mostly along natural waterways. The surrounding natural context is typical of the region.

The Base is located on essentially flat terrain, and has the characteristic appearance of an airfield with wide open spaces for the runways and clear zones. Along the airfield are large industrial structures (hangars and aircraft maintenance facilities), and smaller-scaled commercial and administrative facilities behind the “flightline” areas. The administrative and community areas are distinguished by a consistent architectural style of brick facades. A portion of Scott AFB has been designated as an historic district, which provides a unique visual component to the Base; however, this district is well away from the ANG cantonment area. Landscaping is generally informal with mostly mowed grassy areas with trees, and a well-maintained appearance. The overall visual quality of the built environment is cohesive and attractive. Views to and from the airport are limited due to intervening structures, small changes in elevation, and wooded areas.

3.7 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

3.7.1 DEFINITION OF THE RESOURCE

Socioeconomic resources are defined as the basic attributes associated with the human environment, particularly population and economic activity. Population is described by the change in magnitude, characteristics, and distribution of people. Economic activity is typically composed of employment distribution, personal income, and business growth. Any impact to these two fundamental socioeconomic indicators can have ramifications for secondary considerations, like housing availability and public service provision.

The ANG’s implementing regulation for NEPA is 32 CFR Part 989, et seq. *Environmental Impact Analysis*, (formerly known as AFI 32-7061). To comply with NEPA, the planning and decision making process for actions proposed by federal agencies involves a study of other relevant environmental statutes and regulations, including EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. The essential purpose of EO 12898 is to ensure the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic groups, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, tribal, and local programs and policies. Also included with environmental justice are concerns pursuant to EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*. This EO directs federal agencies to identify and assess environmental health and safety risks that may disproportionately affect children under the age of 18. These risks are defined as ‘risks to health

or to safety that are attributable to products or substances that the child is likely to come in contact with or ingest.’

The socioeconomic and environmental justice analysis that follows is a component of NEPA compliance. Socioeconomic data are presented for the ROI of St. Clair County, the State of Illinois, and the nation, where information is available. Baseline trends for the County are compared to those at the state and national scale. Consequently, data in this section are presented for the county, state, and national levels. Existing conditions for environmental justice were analyzed through demographic characterization, particularly ethnicity and poverty status for the ROI.

3.7.2 EXISTING CONDITIONS

3.7.2.1 Population and Employment

Scott AFB is located in a rural area in St. Clair County, Illinois. Table 3.7-1 compares the differences in population in the ROI between the 1990 Census, the 2000 Census, and most recent estimates from 2004. St Clair County is growing at a slower rate than the state and nation as a whole, and even had a decline in population between 1990 and 2000. The closest communities to the Base where military employees may live or buy goods and services are O’Fallon, Mascoutah, Shiloh, and Belleville. O’Fallon has a current population of about 26,000. Belleville has a slightly higher population with 41,410 persons in 2000 (United States Census Bureau [USCB] 2000). Belleville is a bedroom suburb to the City of St. Louis. Both Shiloh and Mascoutah are small communities with populations under 10,000 persons.

Table 3.7-1. Population Changes in the Region

<i>Location</i>	<i>1990</i>	<i>2000</i>	<i>2004</i>	<i>% change 1990-2000</i>	<i>% change 2000-2004</i>
United States	248,709,873	281,421,906	293,655,404	13.1	4.3
Illinois	11,430,602	12,419,293	12,713,634	8.6	2.3
St Clair County	262,852	256,082	259,132	-2.5	1.2

Source: USCB 2000a, 2000b, 2004, 2005

Data from the USCB (Table 3.7-2) indicate that in St. Clair County, which is the smallest geographic area for which labor statistics were analyzed, there were about 129,500 persons (16 years and older) in the labor force in 2004 (USCB 2004). Table 3.7-2 compares the per capita income (PCI) in the ROI, showing that it is almost 20 percent lower in St. Clair County than the State of Illinois.

Table 3.7-2. Per Capita Income

<i>Geographic area</i>	<i>Per Capita Income, In Dollars, 2003</i>	<i>No. in labor force 2004</i>	<i>% pop. in labor force</i>
U.S.	31,472	145,437,824	65.9
Illinois	32,965	6,384,492	67.1
St Clair County	27,324	129,448	67.0

Source: USCB 2004; Bureau of Economic Analysis 2003

There are about 14,000 persons employed at Scott AFB, including the 126 ARW and other tenants. About 60 percent of these jobs are military and 40 percent civilian. The total Scott AFB community, which is comprised of civilian and military personnel, their dependents, and military retirees, is about 39,500 persons, mostly residing in St. Clair County (Scott AFB 2005d). Total payroll for Scott AFB and tenants in fiscal year (FY) 2003 was about \$970 million with about \$412 million in annual expenditures. This included expenditures of \$42 million for construction projects, \$191 million on materials, equipment and supplies, and \$112 million for services (Scott AFB 2005d).

The 126 ARW (included in the estimates above) currently has a work force of 283 active guard technicians/reserves (less than 1 percent of the St. Clair County work force) and a monthly unit training assembly part-time force of 564 guardsmen (personal communication, Fogarty 2005). The current total annual payroll for the 126 ARW for full-time technicians and reserves is about \$17.4 million. Active and inactive part-time guardsmen payroll is about \$7.6 million.

3.7.2.2 Environmental Justice

In order to provide a thorough environmental justice evaluation, this EA gives particular attention to the distribution of race, poverty, and legal status (under age 18) in areas potentially impacted by implementation of the Proposed Action.

Demographics

Table 3.7-3 displays the comparative statistics for race and Hispanic identification for the ROI. The Black and African American population is higher than the state or nation as a whole, while the Hispanic or Latino population (of any race) is lower.

Table 3.7-3. Profile of Demographic Characteristics, Year 2000

Geographic area	RACE							Hispanic or Latino (of any race)
	ONE RACE						Two or more races	
	White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Some other race		
U.S.	211,460,626	34,658,190	2,475,956	10,242,998	398,835	15,359,073	6,826,228	35,305,818
%	75.1	12.3	0.9	3.6	0.1	5.5	2.4	12.5
Illinois	9,125,471	1,876,875	31,006	423,603	4,610	722,712	235,016	1,530,262
%	73.5	15.1	0.2	3.4	<0.1	5.8	1.9	12.3
St Clair County	173,970	73,666	665	2,322	116	2,040	3,303	5,604
%	67.9	28.8	0.3	0.9	<0.1	0.8	1.3	2.2

Note: Percent of total population (column 2) that each group represents is given in parenthesis. Only the percentages under the 'Race' heading will total 100 percent. Hispanic or Latino can be part of any race, and therefore the percent of Hispanic or Latino is percent of total population.

Source: USCB 2000a, 2000b

Poverty and Legal Status

Table 3.7-4 compares the percent of persons under the age of legal consent (age 18). The areas within the ROI have populations of persons under age 18 that mimic the state and national means.

Table 3.7-4. Persons under Age 18 in the ROI in the Year 2000

<i>Geographic area</i>	<i>Percent Under Age 18, 2000</i>
U.S.	25.7
Illinois	26.1
St Clair County	27.7

Source: USCB 2000a, 2000b

Table 3.7-5 compares poverty at all geographic levels for both individuals and persons under age 18. Poverty in the year 2000 was defined as an income of \$8,794 in a household of one individual, or \$17,603 for a family of four (USCB n.d.). St Clair County has a slightly higher percentage of individuals living below the poverty level (14.5 percent) than the nation as a whole (12.4 percent) and the state of Illinois (10.7 percent). This trend is somewhat greater for persons under the age of 18, with 21.6 percent of this population living below poverty compared to 16.1 percent for the nation and 14.0 percent for the State of Illinois.

Table 3.7-5. Individuals in Poverty, Reported in the Year 2000

<i>Geographic area</i>	<i>Percent Individuals Below Poverty Level</i>	<i>Percent Persons Under Age 18 Below Poverty Level</i>
U.S.	12.4	16.1
Illinois	10.7	14.0
St Clair County	14.5	21.6

Source: USCB 2000a, 2000b

3.8 CULTURAL RESOURCES

3.8.1 DEFINITION OF THE RESOURCE

Cultural resources are historic districts, sites, buildings, structures, or objects considered important to a culture, subculture, or community for scientific, traditional, religious or other purposes. They include archaeological resources, historic architectural/engineering resources, and traditional resources. Cultural resources that are eligible for listing in the NRHP are called historic properties. Historic properties are evaluated for potential adverse impacts from an action. In addition, some cultural resources such as American Indian sacred sites or traditional resources may not be historic properties but they are also evaluated under NEPA for potential adverse effects from an action. These resources are identified through consultation with appropriate American Indian or other interested groups. In 1999, the DoD promulgated its American Indian and Alaska Native Policy emphasizing the importance of respecting and consulting with tribal governments on a government-to-government basis. The Policy requires an assessment, through consultation, of the effects of proposed DoD actions that may have the potential to significantly affect protected tribal resources, tribal rights, and Indian lands before decisions are made by the armed services.

The ROI for cultural resources is the area within which the Proposed Action has the potential to affect existing or potentially occurring archaeological, architectural, or traditional cultural resources. For the Proposed and Alternative actions, the ROI is defined as each project's footprint, including any areas that could be used temporarily for staging or other project-related activities.

3.8.2 EXISTING CONDITIONS

3.8.2.1 Historical Setting

Native Americans have likely inhabited south central Illinois since the continental glaciers began receding northward at the end of the last glacial period, approximately 12,000 years before present (BP) (Illinois State Geological Survey 2005; Fagan 1991). Based on the archaeological record, this time span is divided into temporal periods: Paleoindian (12,000-10,000 years BP); Early, Middle, and Late Archaic (10,000-2,800 years BP); Early, Middle, and Late Woodland (2,800-900 years BP); Early and Late Mississippian (1,100-500 years BP); and Protohistoric (500-330 years BP) (Scott AFB 2003a).

The Paleoindians are thought to have been big game hunters, ranging throughout large regions, subsisting on now-extinct Pleistocene fauna such as mammoth and mastodon (Scott AFB 2003a). Although they no doubt supplemented their diet by gathering various plant species, such organic items are not often well preserved in the archaeological record. Instead, these hunters are best known through the non-organic artifacts they left behind, principally, projectile points. There are technological distinctions among these projectile points that are likely indicative of cultural divisions and possibly the specialization toward hunting, particular large game animals (Fagan 1991). Paleoindian populations of the area seem to have preferred uplands, unlike the later Native American cultural manifestations that centered around the bottom lands of the Mississippi River (Scott AFB 2003a). Due to factors such as antiquity and rising sea levels, the remains of these cultures are sparse, but are found contemporaneously throughout North and South America. These early cultures remain enigmatic, fueling contention about the initial inhabitants of the New World (Fagan 1991).

As the North American climate became warmer and drier, the large mammals the Paleoindians relied upon became extinct (Scott AFB 2003a). As a result, inhabitants focused on different game species and increased their reliance on plant resources. This was the start of the Archaic Period throughout much of North America (Fagan 1991). Archaeological evidence suggests that Archaic groups engaged in a mobile way of life, living in lower elevation camps along the Mississippi floodplain in the summer and moving between a series of upland hunting camps following game movements during the rest of the year (Scott AFB 2003a). The Archaic Period is divided into early, middle, and late sub-periods that should be viewed as a transitional continuum between the Paleoindian Period and the following Woodland Period (Fagan 1991).

Like the Archaic, the Woodland Period is also divided into early, middle, and late sub periods. The beginning of the Woodland Period (Early) is generally marked by the appearance of ceramics and is by and large indistinguishable from the Late Archaic. The Middle Woodland Period is witness to the rise of incipient agriculture, and a shift toward larger population centers

with possible burial mounds (Scott AFB 2003a). This was the time of the Hopewell culture that centered in two main areas: along the Ohio Valley in the east, and along the Mississippi and Illinois rivers in the west. Both areas appear to have been centers to well developed trade networks that eventually grew together (Fagan 1991). This is evidenced by artifacts of exotic materials such as shark teeth and sea shells from the Gulf and East coasts and obsidian from the Yellowstone area. The Hopewell tradition is also known for elaborate mortuary customs and enigmatic earthworks, some of which contain burials. For reasons probably related to carrying capacity and unchecked population growth, Hopewell organization faltered approximately 1,600 years BP (Fagan 1991). Trade networks collapsed and art styles diversified, lacking the previous regional continuity. By the end of the Late Woodland Period, Native American groups transitioned to bow and arrow technology and were living in large central villages, relying substantially on maize agriculture.

Unlike the preceding Archaic Period, the Mississippian Period is only divided into Late and Early sub periods. The Early Mississippian was a continuation of the Late Archaic with an intensified reliance on maize agriculture. The earlier development of ceramics now allowed for the storage of crops that previously had to be consumed within a relatively narrow window after harvest (Scott AFB 2003a). Square, single-post structures were adopted which began to transition to wall trench structures toward the end of the Early Mississippian. Settlements grew in size, tending to cluster around a central plaza.

The Late Mississippian is best known through the Cahokia Site, less than 20 miles from Scott AFB (Scott AFB 2003a). It is the largest known archaeological site within the borders of the U.S. and likely represents the most complex social and political organization in North America outside of the cultures of Mesoamerica. Cahokia was the center of a vast civilization that included specialized outlying camps, villages, and major and minor chiefdoms that flourished for nearly 600 years. At its zenith (between 950 – 750 years BP), it occupied more than five square miles and had a population believed to be in excess of 30,000. Like the previous Hopewell tradition, the Mississippian tradition focused on agriculture in the fertile river floodplain, but to a more diverse and intensive level (Fagan 1991). When European explorers reached Cahokia, they found it unoccupied.

The Protohistoric Period refers to the time between the indirect influence of non-native trade goods and diseases, and actual direct contact with European groups. The duration of the Protohistoric period varies greatly throughout North America, lasting as little as five minutes to as long as 250 years (Fagan 1991). Epidemics and new technologies such as firearms and horses disrupted local populations to the extent that it is difficult to discern tribal territories. In the 1700s Illinois contained representatives from numerous tribes, including the Miami, Illinois, Fox, Kickapoo, Shawnee, and Mascouten (Scott AFB 2003a).

The Historic Period (in the area of Scott AFB) began with the arrival of French explorers in 1673 when the region was controlled by the Illinois Confederacy (Scott AFB 2003a). It took a little more than 150 years to relocate local Native American populations to the Oklahoma reservations (Scott AFB 2003a).

After first being settled by the French, the area passed to British control after the 1763 Treaty of Paris, stripping the French of all possessions in North America. Later, after the U.S. gained independence from Great Britain, Cahokia was established as the county seat of St. Clair County in 1790 (Scott AFB 2003a). Eight miles south of Scott AFB, the town of Belleville was founded in 1814. Settlers to the area were largely Virginian slave holders as well as a sizable number of German immigrants (Scott AFB 2003a). The City of Belleville grew steadily through local agriculture and industries such as coal mining, beer brewing, flour milling, and stove manufacturing, a few of which remain important to the current local economy (Scott AFB 2003a).

Named for Corporal Frank S. Scott, the first enlisted man to die in an aircraft accident, Scott AFB started as a Midwest training base and flying field in 1917 (Scott AFB 2005e). Flying instruction began on September 11, 1917, with most training using the eight-cylinder Curtiss JN-3D “Jennie” (Global Security 2005a). Given the dangerous nature of early aviation and the need to attend to and transport injured aviators, Scott personnel modified two Jennies into air ambulances that were first used on August 24, 1918. The current mission of Scott AFB has strong ties to its history of aero medical evacuation. In November of 1918, World War I ended and activity at the field decreased substantially.

Initially leased from Shiloh Valley Township, the area of Scott Field was purchased by the War Department in 1919 for \$119,285.84 (Scott AFB 2003a). Two years later, Scott Field became a Lighter Than Air (LTA) station for the research and development of the technology. This was accompanied by the construction of several associated structures including an airship hangar, a helium storage and repurification plant, and a 176-foot high mooring mast (Scott AFB 2003a). Given the explosive nature of helium, several airship disasters turned public opinion as well as military thoughts against LTA aviation. As a result, the Air Corps Balloon and Airship School was deactivated in 1928. With a lack of funds needed to maintain existing airships, LTA activities at Scott Field officially ended in 1937 (Scott AFB 2003a).

Between 1938 and 1942, the Base area was increased to almost three times its original size. Adding numerous facilities, Scott Field was one of the primary training facilities for the Army Air Corps. Training mostly radio operator mechanics, Scott had produced more than 77,000 technicians by mid 1945 (Scott AFB 2003a). Scott Field was renamed Scott AFB in 1947 with the separation and redesignation of the Army Air Force as the USAF. During the next two decades, Scott AFB continued its emphasis on training and began a collaborative relationship

with the ANG. During this time it also accepted increased aeromedical duties, becoming the U.S. headquarters for aeromedical evacuation (Scott AFB 2003a).

Today the Base occupies 3,589 acres, with over 39,000 people living and/or working on Base (Scott AFB 2005d). The primary mission of Scott AFB is global mobility. It is responsible for all air mobility operations as well as providing U.S. aeromedical evacuation. Additionally, Scott AFB provides operational support for airlift and air refueling capabilities (Scott AFB 2005d).

A relatively recent tenant of the Base, the 126 ARW relocated to Scott AFB from Chicago's O'Hare International Airport in 1999. The mission of the 126 ARW is to provide refueling support to U.S. military forces and those of allied nations, as well as airlift missions (Global Security 2005b).

3.8.2.2 Identified Cultural Resources

Archaeological Resources

Cultural resource management formally began at Scott AFB in 1975, but it was not until 1986 that a cultural resources program was established. Since that time, numerous cultural resources surveys have been performed as well as test excavations at five historic archaeological sites. These efforts have identified 12 archaeological sites and two historic cemeteries. All of the sites are historic, although Native American artifacts are represented at only two of the sites. Only one of the 12 sites was evaluated as NRHP-eligible; following impact mitigation, it was destroyed through construction. As a result, there are no known NRHP-eligible archaeological resources at Scott AFB. Most of the Base has been surveyed or is known to be heavily disturbed through the construction and demolition efforts related to the growth period during and after WWII. The Integrated Cultural Resources Management Plan (2003) has identified parcels where more archaeological work may be required, but none are near any projects of the Proposed Action or Alternative Action.

Historic Architectural Resources

Scott AFB is home to the Scott Field Historic District that is made up of 104 contributing historic buildings and structures. The buildings and structures were inventoried and evaluated in 1992 by Thomason and Associates of Nashville, Tennessee (Scott AFB 2003a). Thomason and Associates also completed the NRHP district nomination that was approved by the Illinois SHPO in 1993 and the National Park Service in 1994. A 1994 evaluation of potentially eligible historic Cold War era resources examined 59 structures. None of the evaluated structures were recommended as eligible at the time; however it was recommended that Building 3200 (ANG Alert Hangar) be reevaluated in 2002, on the 50th anniversary of its build date. In December of 2002, Building 3200 was evaluated as eligible for the NRHP under Criterion C.

Resources in the Vicinity of the 126 ARW Installation

The Proposed Action and Alternative Action involve up to 11 projects at specified locations (Section 2.2). Six of the 11 projects described in Sections 2.2 and 2.3 would undergo alteration or demolition (Table 3.8-1).

Table 3.8-1. Buildings in ROI of 126 ARW Projects

<i>Building Number, Function</i>	<i>Build Date</i>	<i>NRHP Eligibility</i>	<i>Project/Action</i>
5542 Multi-vehicle Carport	1951	Unevaluated	Facility Demolition
5010 Communication Facility	2000	Not eligible	Addition/Alteration to Communication Facility
3901 Fire Station	2001	Not eligible	Addition/Alteration to Mid-Field Fire Station
3901 Fire Station	2001	Not eligible	Further Addition to Mid- Field Fire Station
5028 Deployment Processing Center	2001	Not eligible	Addition/Alteration to Deployment Processing Center
5038 Pump House	2001	Not eligible	Construct Pump House Spill Containment

Traditional Resources

No traditional resources or Native American issues have been identified at Scott AFB (Scott AFB 2003a). Although there are no reservations in the State of Illinois, the Kaskaskia and the Kickapoo have judicially established lands near Scott AFB.

3.9 SAFETY

3.9.1 DEFINITION OF THE RESOURCE

This section addresses ground, explosive, and flight safety associated with activities conducted by the 126 ARW installation. Ground safety considers issues associated with human activities and operations and maintenance activities that support unit operations. A specific aspect of ground safety addresses anti-terrorism/force protection (AT/FP) considerations. Explosive safety addresses the management and use of ordnance or munitions associated with installation operations and training activities. Flight safety considers aircraft flight risks such as aircraft accidents.

The ROI for safety is the aviation facilities that support 126 ARW operations and the lands immediately adjacent to these facilities.

3.9.2 EXISTING CONDITIONS

3.9.2.1 Ground Safety

Day-to-day operations and maintenance activities conducted by the 126 ARW are performed in accordance with applicable USAF safety regulations, published Air Force Technical Orders, and standards prescribed by Air Force Occupational Safety and Health requirements.

The 375 AW (host unit) fire department responds to all emergencies on Scott AFB. All required emergency response equipment is available, and no waivers are in effect (personal communication, Berridge 2005). All ILANG facilities are equipped with required automatic fire suppression systems, and no waivers are in effect (personal communication, Berridge 2005). There are no unidentified Clear Zone, APZs, or other airfield encroachments on the installation or MidAmerica Airport (personal communication, Pulse 2005). There are 15 airfield clearance violations that require waivers. All have been granted or are pending. There are eight other clearance violations for which permanent exemptions have been granted (USAF 2004).

3.9.2.2 Explosives Safety

The 126 ARW stores, maintains, and uses a range of munitions required for day-to-day performance of their mission. All ordnance is handled and stored in accordance with USAF explosive safety directives (AFI 91-201), and all munitions maintenance is carried out by trained, qualified personnel using USAF-approved technical procedures. All other ordnance is stored by the 375 AW. There are no explosive safety waivers in effect. If explosive ordnance disposal support is required, it is provided by active duty units on Scott AFB (personal communication, Berridge 2005).

3.9.2.3 Anti-Terrorism/Force Protection

As a result of terrorist activities, the DoD and the USAF have developed a series of AT/FP guidelines for military installations. These guidelines address a range of considerations that include access to the installation, access to facilities on the installation, facility siting, exterior design, interior infrastructure design, and landscaping (Unified Facilities Criteria 2003; USAF n.d.). The intent of this siting and design guidance is to improve security, minimize fatalities, and limit damage to facilities in the event of a terrorist attack.

Many military installations, such as the 126 ARW facilities, were developed before such considerations became a critical concern. Thus, under current conditions, many units are not

able to comply with all present AT/FP standards. However, as new construction occurs, it would incorporate these standards, and as facilities are modified, AT/FP standards would be incorporated to the maximum extent practicable.

3.9.2.4 Flight Safety

The primary public concern with regard to flight safety is the potential for aircraft accidents. Such mishaps may occur as a result of mid-air collisions, collisions with manmade structures or terrain, weather-related accidents, mechanical failure, pilot error, or bird-aircraft collisions. Flight risks apply to all aircraft; they are not limited to the military. Flight safety considerations addressed include aircraft mishaps and bird-aircraft strikes.

Aircraft Mishaps

The USAF defines four major categories of aircraft mishaps: Classes A, B, C, and E, which includes High Accident Potential (HAP). Class A mishaps result in a loss of life, permanent total disability, a total cost in excess of \$1 million, or destruction of an aircraft. Class B mishaps result in total costs of more than \$200,000 but less than \$1 million, and result in permanent partial disability or inpatient hospitalization of three or more personnel. Class C mishaps involve reportable damage of more than \$20,000, but less than \$200,000; an injury resulting in any loss of time from work beyond the day or shift on which it occurred, or occupational illness that causes loss of time from work at any time; or an occupational injury or illness resulting in permanent change of job. HAP events are any hazardous occurrence that has a high potential for becoming a mishap. Class C mishaps and HAP, the most common types of accidents, represent relatively unimportant incidents because they generally involve minor damage and injuries, and rarely affect property or the public (USAF 2004). This EA will focus on Class A mishaps because of their potentially catastrophic results.

Based on historical data on mishaps at all installations, and under all conditions of flight, the military services calculate Class A mishap rates per 100,000 flying hours for each type of aircraft in the inventory. It should be noted that these mishap rates do not consider combat losses due to enemy action. In evaluating this information, it should be emphasized that data presented are only statistically predictive. The actual causes of mishaps are due to many factors, not simply the amount of flying time of the aircraft.

The 126 ARW operates KC-135E aircraft. Since entering the USAF inventory, C-135-type aircraft have flown more than 12,347,700 hours. During this time, C-135-type aircraft have experienced 79 Class A mishaps. These data reflect a Class A mishap rate per 100,000 flying hours of 0.64 (USAF Safety Center 2005).

Considering this rate, the probability of a C-135-type aircraft being involved in a Class A mishap is 0.000006. In fact, the 126 ARW has only experienced one Class A mishap since the unit began flying these aircraft. The mishap occurred when the unit was flying out of Chicago, Illinois in 1982 (personal communication, Pulse 2005).

Bird-Aircraft Strike Hazards

Bird-aircraft strikes constitute a safety concern because of the potential for damage to aircraft or injury to aircrews or local populations if an aircraft crash should occur in a populated area. Aircraft may encounter birds at altitudes of 30,000 feet MSL or higher. However, most birds fly close to the ground. Over 94 percent of reported bird strikes occur below 3,000 feet above ground level (AGL). Approximately 50 percent of bird strikes happen in the airport environment, and almost 15 percent occur during low-altitude flight training and use of weapons ranges (USAF Bird-Aircraft Strike Hazard [BASH] Team 2005).

Migratory waterfowl (e.g., ducks, geese, and swans) are the most hazardous birds to low-flying aircraft because of their size and their propensity for migrating in large flocks at a variety of elevations and times of day. Waterfowl vary considerably in size, from one to two pounds for ducks, five to eight pounds for geese, and up to 20 pounds for most swans. There are two normal migratory seasons, fall and spring. Waterfowl are usually only a hazard during migratory seasons. These birds typically migrate at night and generally fly between 1,500 to 3,000 feet AGL during the fall migration and from 1,000 to 3,000 feet AGL during the spring migration.

Along with waterfowl, raptors, shorebirds, gulls, herons, and songbirds also pose a hazard. In considering severity, the results of bird-aircraft strikes in restricted areas show that strikes involving raptors result in the majority of Class A and Class B mishaps related to bird-aircraft strikes. Raptors of greatest concern are vultures and red-tailed hawks. Peak migration periods for raptors, especially eagles, are from October to mid-December and from mid-January to the beginning of March. In general, flights above 1,500 feet AGL would be above most migrating and wintering raptors.

The potential for bird-aircraft strikes is greatest in areas used as migration corridors (flyways) or where birds congregate for foraging or resting (e.g., open water bodies, rivers, and wetlands).

While any bird-aircraft strike has the potential to be serious, many result in little or no damage to the aircraft, and only a minute portion result in a Class A mishap. During the years 1985 to 2004, the USAF BASH Team documented 62,536 bird strikes. Of these, 25 resulted in Class A mishaps where the aircraft was destroyed. These occurrences constituted approximately 0.04 percent of all reported bird-aircraft strikes (USAF BASH Team 2005).

A wildlife strike hazard does exist at Scott AFB/MidAmerica Airport. The facilities are surrounded by habitat attractive to both avian and large and small mammalian species. Avian species of notable concern include a variety of waterfowl, due to the installation's proximity to the Mississippi River flyway, large flocks of wintering blackbirds, and starlings. Mammalian species that may be present on the aviation facilities include deer, fox, coyotes, rabbits, and rodents (375 AW 2004b).

The management and control of wildlife hazards on Scott AFB and MidAmerica Airport is considered a joint responsibility, shared by the 375 AW and the MidAmerica Airport Director of Operations. Wildlife risk is mitigated through avoidance, environmental and habitat control, dispersal, removal, and depredation as required. A federal depredation permit from the USFWS is required prior to killing any protected birds, with the exception of European Starlings, House Sparrows, Rock Doves, and domestic pigeons which are not federally protected. It should be noted that the inadvertent "taking" of a protected species as a result of a bird-aircraft strike is exempt from any permit requirements (375 AW 2004b).

When the presence of wildlife increases in the vicinity of the runways, certain flight activities may be modified, or completely curtailed until the risk associated with wildlife presence is reduced to acceptable levels (375 AW 2004b). Since the 126 ARW has been operating from Scott AFB/MidAmerica Airport, the unit has experienced an average of less than eight bird-strikes per year. None have been serious (personal communication, Pulse 2005).

3.10 SOLID AND HAZARDOUS MATERIALS AND WASTE

3.10.1 DEFINITION OF THE RESOURCE

This section describes the affected environment associated with hazardous materials and petroleum products, hazardous and petroleum wastes, Environmental Restoration Program (ERP) sites, and solid waste at the construction, renovation, and demolition areas.

The terms "hazardous materials" and "hazardous waste" refer to substances defined as hazardous by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Solid Waste Disposal Act (SWDA), as amended by the Resource Conservation and Recovery Act (RCRA). In general, hazardous materials include substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may present substantial danger to public health or the environment when released into the environment. Hazardous wastes that are regulated under RCRA are defined as any solid, liquid, contained gaseous, or semisolid waste, or any combination of wastes that either exhibit one or more of the hazardous characteristics of ignitability, corrosivity, toxicity, or reactivity, or are listed as a hazardous waste under 40 CFR Part 261. Petroleum products include petroleum-based fuels,

oils, and their wastes. The ERP is a DoD program to identify, characterize, and remediate environmental contamination from past activities at DoD installations.

Issues associated with hazardous material and waste typically center around waste streams, underground storage tanks (USTs), aboveground storage tanks (ASTs), and the storage, transport, use, and disposal of pesticides, fuels, lubricants, and other industrial substances. When such materials are improperly used in any way, they can threaten the health and well being of wildlife species, habitats, and soil and water systems, as well as humans. This section also considers solid waste.

The management of hazardous materials and hazardous waste is governed by specific environmental statutes. The key regulatory statutes include:

Comprehensive Environmental Response, Compensation and Liability Act of 1980 (42 USC 9601–9675) as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986. CERCLA/SARA regulates the prevention, control, and compensation of environmental pollution.

Community Environmental Response Facilitation Act of 1992 (CERFA) (42 USC 9620). This act amended CERCLA to require that, prior to termination of federal activities on any real property owned by the federal government, agencies must identify real property where hazardous substances were stored, released, or disposed of.

Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 (42 USC 11001–11050). EPCRA requires emergency planning for areas where hazardous materials are manufactured, handled, or stored and provides citizens and local governments with information regarding potential hazards to their community.

Resource Conservation and Recovery Act of 1976 (42 USC 6901–6992). RCRA established standards and procedures for handling, storage, treatment, and disposal of hazardous waste.

Federal Facility Compliance Act (FFCA) of 1992 (Public Law [P.L.] 102-426). This act provides for a waiver of sovereign immunity on the part of federal agencies with respect to federal, state, and local requirements relating to RCRA solid and hazardous waste laws and regulations.

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) of 1996 (7 USC 136 et seq.). FIFRA provides federal control of pesticide distribution, sale, and use. It also provides certification criteria for pesticide applicators, including contractors.

Pollution Prevention Act of 1990 (42 USC 13101–13109). This act encourages minimization of pollutants and waste through changes in production processes.

USEPA Regulation on Identification and Listing of Hazardous Waste (40 CFR Part 261). This regulation identifies solid wastes subject to regulation as hazardous and to notification requirements under RCRA.

USEPA Regulation on Standards for the Management of Used Oil (40 CFR Part 279). This regulation delineates requirements for storage, processing, transport, and disposal of oil that has been contaminated by physical or chemical impurities during use.

USEPA Regulation on Designation, Reportable Quantities, and Notification (40 CFR Part 302). This regulation identifies reportable quantities of substances listed in CERCLA and sets forth notification requirements for releases of those substances. It also identifies reportable quantities for hazardous substances designated in the CWA.

Air Force Policy Directive (AFPD) 32-70, Environmental Quality, establishes the policy that the USAF is committed to environmentally sound practices. These include the following:

- Cleaning up environmental damage resulting from its past activities.
- Meeting all environmental standards applicable to its present operations.
- Planning its future activities to minimize environmental impacts.
- Managing responsibly the irreplaceable natural and cultural resources it holds in public trust.
- Eliminating pollution from its activities wherever possible.

AFPD 32-70 and AFI 32-7000 series incorporate the requirements of all Federal regulations, other AFIs, and DoD directives for the management of hazardous materials, hazardous wastes, and special hazards.

The ROI for hazardous materials, hazardous waste, and petroleum products encompasses areas that could be exposed to an accidental release of hazardous substances from the construction, renovation, or demolition activities. Therefore, the ROI for this section is defined as the boundary of the 126 ARW parcel at Scott AFB.

3.10.2 EXISTING CONDITIONS

The 375 CES/CEV is responsible for the implementation of hazardous material and waste plans at Scott AFB. In conformance with the policies established by AFPD 32-70, the 375 CES/CEV has developed procedures and plans to manage hazardous wastes, hazardous materials, special wastes, and environmental restoration sites on Scott AFB.

3.10.2.1 Hazardous Materials and Petroleum Products

Throughout the USAF, hazardous materials are managed in accordance with AFI 32-7086. This instruction establishes procedures and standards that govern the management of hazardous materials. It applies to all USAF personnel who authorize, procure, issue, use, or dispose of hazardous materials, and to those who manage, monitor, or track any of those activities. The 375 CES/CEV manages hazardous materials in accordance with AFI 32-7086.

Hazardous materials and petroleum products are used throughout the installation for various functions, including aircraft refueling, maintenance, and washing; vehicle maintenance and washing; POL distribution and management; facilities maintenance and repair; maintenance of ground support equipment; and aircraft support operations. Hazardous materials used in these functions include fuels and lubricating oils, solvents, paints and thinners, antifreeze, deicing compounds, and acids. At Scott AFB, hazardous materials are managed through a centralized Base Hazardous Material (HAZMAT) Pharmacy using an Environmental Management Information System, which tracks the inventory and acquisition of hazardous materials along with hazardous waste disposal and health and safety information (Air Force Institute for Environment, Safety, and Occupational Health Risk Analysis [AFIERA] 2002).

The Base *Spill Prevention Control and Countermeasure (SPCC) Plan* (Scott AFB 2001a) provides guidance on hazardous material and petroleum storage, spill prevention measures, and contingency procedures including spill containment and cleanup. This plan establishes responsibilities for handling fuels and other hazardous fluids, containing and recovering spills, spill training, and spill reporting procedures. Potential pollutants stored at the installation include JP-8 aviation fuel, #2 fuel oil, gasoline, and diesel fuel, which are all stored in aboveground storage tanks and associated distribution systems. In addition, smaller amounts of paints, thinners, lubricants and other industrial chemicals are stored and handled in various buildings. The fuel storage facility is located in the southwest portion of the installation and constitutes the major fuel storage capacity at the installation. However, the 126 ARW maintains a fuel storage facility within the ROI which is covered by the Scott AFB SPCC.

3.10.2.2 Hazardous and Petroleum Wastes

Hazardous wastes are managed through the Base level Hazardous Waste Management Plan. This Plan is currently being revised by the 375 CES/CEV in accordance with AFI 32-7042, Solid and Hazardous Waste Compliance (AFIERA 2002). The Hazardous Waste Management Plan provides guidance to Scott AFB personnel (including tenants such as the 126 ARW) on the handling, storage, and disposal of hazardous materials and this plan will implement the “cradle-to-grave” management control of hazardous waste as mandated by USEPA.

Some of the hazardous wastes generated at Scott AFB include spent solvents, photofixer, waste oils, waste cleaning compounds, and various forms of waste paint. The Base Hazardous Waste Management Program covers the handling of universal wastes such as batteries, pesticides, mercury thermostats, and mercury-containing lamps and various special wastes including potentially infectious medical wastes, industrial process wastes, and pollution control wastes.

The 126 ARW is regulated as a large quantity generator and maintains USEPA identification number IL7570024177. There are approximately 50 different satellite accumulation points where hazardous wastes are collected on Scott AFB. Of the 50 points, 23 are managed by the 126 ARW. Building 3306 serves as the central accumulation site for all wastes generated on Scott AFB. This central accumulation site is managed and operated by the 375 CES/CEV. The 126 ARW does not operate a hazardous waste storage facility on Scott AFB and it is the policy of the 126 ARW to ship hazardous wastes offsite as expeditiously as possible.

Asbestos-containing materials (ACM) are managed by the USAF through the implementation of AFI 32-1052, Facilities Asbestos Management. This instruction provides direction for the management of asbestos and ACM at USAF installations. This instruction requires installations to develop an asbestos management plan for the purpose of maintaining a permanent record of the condition and status of ACM in buildings and other facilities on the installation, as well as documenting asbestos management efforts. In addition, the instruction requires the development of an asbestos operating plan. This plan describes how the installation maintains compliance with the AFI for asbestos-related projects. However, the plan further notes that USEPA policy is to leave asbestos in place if disturbance or removal could pose a threat to human health or the environment.

The 126 ARW maintains compliance with the requirements of AFI 32-1052 through the Scott AFB Asbestos Management Plan (Scott AFB 2000a) and the asbestos operations plan (Scott AFB 2000b). This management plan describes procedures for the removal, encapsulation, enclosure, and repair activities associated with ACM-abatement projects. The objective of the plan is to reduce the potential of exposure to potentially hazardous levels of airborne asbestos fibers and assist in maintaining compliance with all Federal, state, and local asbestos regulations.

Lead-based paint (LBP) is regulated through the residential Lead-Based Paint Hazard Reduction Act of 1992. Subtitle B, Section 408 regulates the use and disposal of LBP on federal facilities. Federal agencies are required to comply with applicable federal, state, and local laws and regulations relating to LBP activities and hazards.

USAF policy (USAF 1993) requires each installation to develop and implement a facility management plan for identifying, evaluating, managing, and abating LBP hazards. The *Lead-Based Paint Management Plan* (Scott AFB 1996) provides a basic approach to LBP management. The Plan covers designation of responsibilities, identification of hazards, testing procedures, abatement methods, training requirements, and protection of citizens and workers. The Plan also addresses lead exposure from other sources such as lead soldered fittings used in the potable water system and occupational exposure to lead through corrosion control, welding, and cable maintenance operations. The mitigation and monitoring of LBP, disposal, and other hazards are also discussed.

3.10.2.3 Environmental Restoration Program Sites

The ERP, formerly known as the Installation Restoration Program, is a subcomponent of the Defense Environmental Restoration Program that was promulgated as law under SARA. The ERP requires each DoD installation to identify, investigate, and remediate hazardous waste release and disposal sites.

In 1995, Preliminary Assessments/Site Investigations completed at Scott AFB identified 16 ERP sites (Parsons 1995). Two of these have been closed with no further site remediation planned. However, 17 Areas of Concern (AOCs) are currently under investigation as potential ERP sites (personal communication, McCoy 2005).

The ROI covered by this EA includes the area defined as the boundary of the 126 ARW parcel. Because none of the actions or alternatives involves areas outside of this ROI, ERP sites outside of this area will not be discussed. Within the ROI for this Proposed Action, there are two ERP sites (OT-07 and SS-12) and five AOCs (AOC 6, AOC 14, AOC 18, AOC 22 and AOC 23) (Figure 3.10-1).

Site OT-07 is a former sludge weathering lagoon located in the central to eastern portion of the Base near the northern end of Taxiway “G” (formerly Taxiway “H”). It was constructed in the mid-1970s and used for two years. It was primarily used as a disposal site for tank bottom sludge, and on occasion, other industrial wastes had been disposed in the lagoon. In 1981, the lagoon was closed and the soils were removed to a depth of two feet. The site was backfilled to grade with sand and gravel. A No Further Response Action Planned Decision Document was signed in 1992 by the Base and forwarded to the Illinois EPA. To date, Scott AFB is awaiting concurrence from the Illinois EPA on closure of the site.

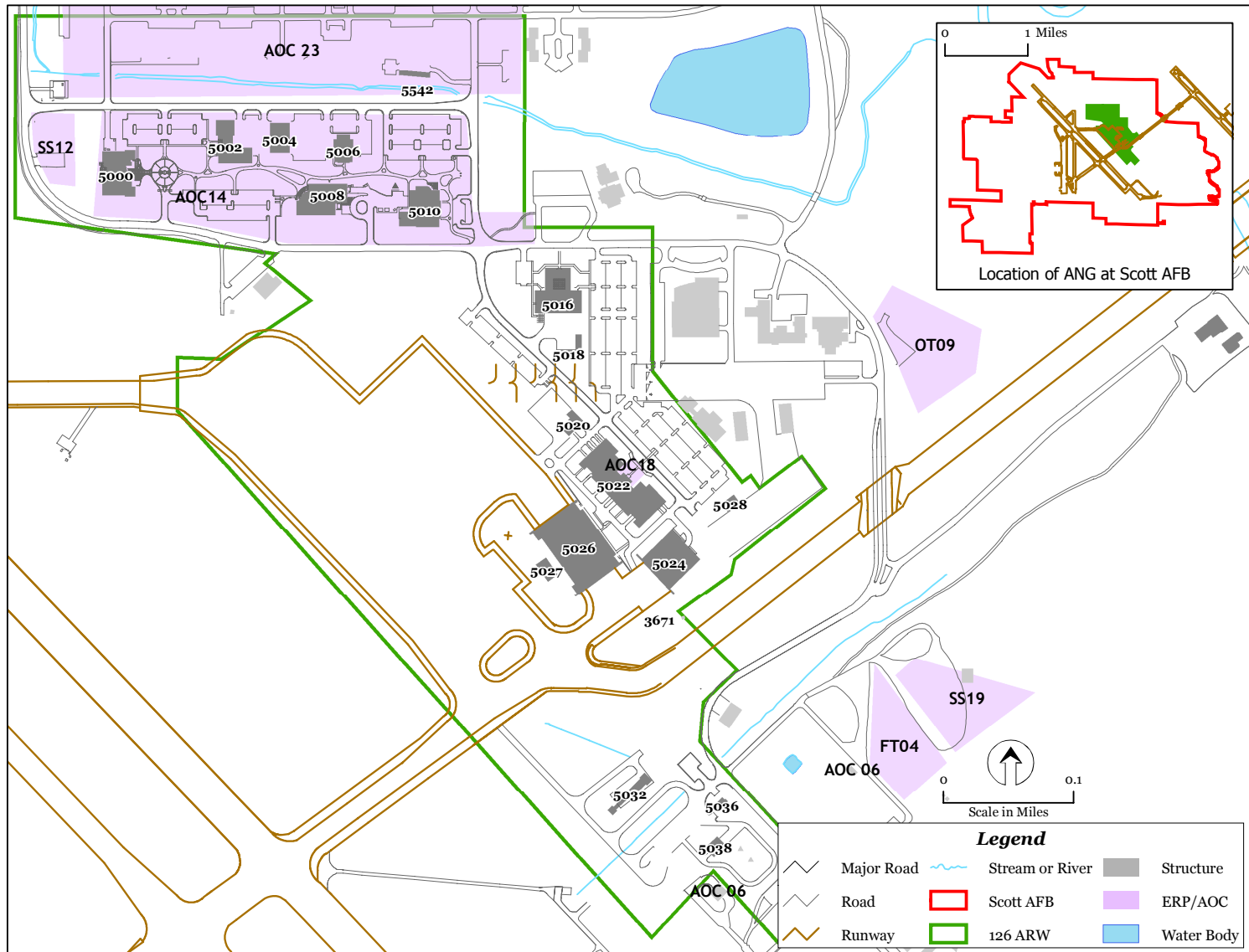


Figure 3.10-1. ERP Sites and AOCs on the 126 ARW Installation at Scott AFB, Illinois

Site SS-12 (Building 1197) is the former golf course maintenance/entomology shop located adjacent to the golf course at the corner of Grover Avenue and Golf Course Road in the northern part of the Base. This building was constructed in 1972. Its primary function was mixing pesticides and herbicides for application to the golf course grounds and other areas of the Base. The mixing occurred next to the east fence of the facility, and any spillage would have drained southeast toward a storm drain in the southeast corner of the storage yard. Building 1197 was demolished in 2001 and no investigation or remediation has occurred at this site (Scott AFB 2003b).

The site listed as AOC 6 refers to 20 oil water separators (OWS) on Scott AFB, two of which occur in the ROI near Buildings 3675 (OWS 15) and 3674 (OWS 14). These OWS were in operation from the 1960s to 1994. All of the OWS were replaced and or removed in May 1996 (Scott AFB n.d.). A Preliminary Site Assessment/Site Investigation (PA/SI) has recently been conducted on all 20 of the OWS sites (Scott AFB 2005f).

OWS-15 – This former OWS was situated off the northeast side of Building 3675 (Army Reserve Motor Pool). A drain from the vehicle wash rack flowed to the OWS. During the 1994 PA/SI field effort, three soil borings were completed around the former OWS excavation area; two soil samples and two groundwater samples were collected at discrete depths in each boring. Although several polycyclic aromatic hydrocarbons were detected, all concentrations were below Illinois EPA regulatory limits. No other compounds were detected in groundwater (Parsons 1995). During the recent reconnaissance in 2005, an OWS was not observed and the area of the OWS indicated in the 1994/1995 PA/SI report has been overlain with a relatively new concrete pad. No samples were proposed to be obtained from this site (Scott AFB 2005f).

OWS-14 – This OWS was situated adjacent to former Building 3674. The 1994/1995 PA/SI report stated that Building 3674 was used as a jet engine test facility until 1985 (Parsons 1995). Fuels and solvents, used to flush fuels from the engines, flowed from a floor drain in the building to the OWS. In 1988, the building was converted to a mobile command center equipment storage and maintenance area, and for the storage and maintenance of lawn maintenance equipment. According to the 1994/1995 PA/SI report, at the time of the 1994 PA/SI field activities, the OWS was still in place and had been serviced/emptied once between 1981 and 1994. Six soil borings were completed during the 1994 PA/SI field activities. Two subsurface soil samples and two groundwater samples were collected from each boring. The results of the soil samples indicated the presence of several VOCs. Two groundwater samples collected indicated the presence of trichloroethylene and cis-dichloroethene at concentrations below the USEPA maximum contaminant level. As observed during the recent reconnaissance in 2005, Building 3674

appears to have been razed. Building 5032 appears to have been constructed over the site area. No samples were proposed to be obtained from this site (Scott AFB 2005f).

The sites listed as AOC 14 and 23 are the Cardinal Creek Village – South and North areas respectively. Each of these AOCs cover approximately 22 acres and both were former housing areas originally constructed in 1952 and completed around 1955. Renovations to these areas were conducted in the early 1980s. The south area consisted of approximately 60 buildings along with open spaces and playgrounds. The north area consisted of approximately 72 buildings also with common areas of open spaces and playgrounds. The units in both areas were vacated in 1999 and demolished shortly thereafter. From 1960 to the late 1980s, chlordane was used to treat the buildings for termite control. The treatment involved the injection of a solution beneath and around the foundation and slabs, thus contaminating the soil. In 1997, the Base conducted a PA/SI of both areas to determine the nature and extent of contamination. This study identified both chlordane and lead at concentrations in the soil that exceeded the Illinois EPA Tier 1 soil cleanup guidance (Scott AFB 1997a). As a result of this study, a soil management plan was prepared for the excavation and stockpiling of soils in the south area only in advance of relocating the 126 ARW to this area of Scott AFB (Scott AFB 1997b). In 1998, a Final Decision Document for the excavated soil from the south area was prepared (Scott AFB 1998). This document designated AOC 14 as a CERCLA Area of Contamination and described the selected remedy for the excavated soils. In cooperation with the Illinois EPA, approximately 5,000 cubic yards of soil were excavated from the former housing area and stockpiled into an engineered containment cell located east of Pryor Drive and north of Golf Course Road. Upon completion of the excavation, the soil was capped with an engineered barrier consisting of three feet of clean soil and graded to have the appearance of a landscape berm. This soil will remain at this location until a final action is implemented as part of the ERP (Scott AFB 1998). Regarding AOC 23, no investigation has occurred and soils remain in place. Although a future investigation is planned for this site, it is unknown when this will occur.

The site listed as AOC 18 refers to Basewide former coal storage piles. Coal was the primary source of fuel for the Base from the early 1930s to the mid 1960s. During that time, nearly every building was heated by steam or coal burning furnaces. The 2005 PA/SI recommended that one boring be installed at the location of the former coal storage area around existing Building 5022. In 2005, soil samples obtained from this boring indicated no evidence of coal or other contamination at this location (Scott AFB 2005g). The final report recommended no further action for this site.

AOC 22 consists of two former 25,000-gallon jet fuel ASTs used by the Army Reserve from the 1970s until 1994. These two ASTs were located near Building 3671, north-northeast of the jet engine test stand (former Building 3674), and along the south side of Taxiway G. Base maps indicate that aboveground piping for distributing fuel to fueling trucks was associated with these

ASTs (Scott AFB 2005f). During the recent reconnaissance in 2005, it was observed that Buildings 3671 and 3674 had been razed. (It appears that Building 5032 has been constructed over the Building 3674 area.) Also, a new set of ASTs and a truck fueling area were constructed south of AOC 22. Currently, the AOC 22 area is partially overlain by the taxiway leading to MidAmerica Airport. No remnants of the original ASTs or piping were observed during the 2005 survey. Five surface, ten subsurface and five groundwater samples were proposed to be obtained from this site (Scott AFB 2005f).

3.10.2.4 Solid Waste

The Scott AFB *Solid Waste Management Plan* (SWMP) provides guidance for personnel who work with solid wastes, and sets local management procedures for managing solid waste, preventing pollution, and establishing proper disposal and recycling options (Scott AFB 2001b). The plan incorporates current USEPA, state, and local requirements regarding the management of solid waste as they relate to environmental protection during operations conducted at this installation. Solid wastes, other than construction and demolition waste generated at Scott AFB, are disposed at an on-site recycling facility. Construction and demolition waste are transported to and disposed of at an off site landfill. Solid wastes at Scott AFB consist of regular waste from municipal, office, residential, and industrial sources; yard waste, including grass, brush, tree trimmings, and installation grounds and golf course maintenance; high value metal wastes such as brass casings; and roads and grounds maintenance (Scott AFB 2005h). The goals of Scott AFB for solid waste include minimizing waste generation by reusing and recycling materials whenever possible, and increasing use of materials that are reusable and recyclable. Descriptions of the recycled materials and their amounts are shown in Table 3.10-1. As of 2005, the installation recycled about 40 percent of its non-hazardous solid wastes.

3.11 INFRASTRUCTURE

3.11.1 DEFINITION OF THE RESOURCE

Infrastructure refers to the system of public works, such as transportation and utilities that provide the underlying framework for a community. Transportation and circulation refer to roadway and street systems, the movement of vehicles, pedestrian and bicycle traffic, and mass transit. Utilities include such amenities as water and power supply and waste management.

The infrastructure elements at the 126 ARW installation at Scott AFB include both transportation and utility systems. The ROI for this resource primarily consists of the installation.

Table 3.10-1. Composition of Recycled Materials in Tons

<i>Material</i>	<i>FY00</i>	<i>FY01</i>	<i>FY02</i>	<i>FY03</i>	<i>FY04</i>
Scrap Metals	216	215	229	206	280
Aluminum Cans	NA	NA	NA	9	11
Auto, Batteries, Tires	NA	66	56	70	74
Fluorescent Bulbs	5	7	3	3	2
Toner Cartridges	1	3	9	1	6
Pallets	19	31	20	5	48
Glass	38	8	0	83	20
Cardboard/Boxboard	866	319	271	244	387
Office Paper and Books	623	470	454	324	440
White Ledger Paper	NA	NA	NA	99	130
Plastics	31	51	21	25	77
126 ARW	NA	NA	NA	16	0
ACR	NA	NA	NA	1	0
FEACR	NA	NA	NA	0	0
Yard Waste	758	1,091	1,447	498	1,573
Cardboard from the BX	NA	NA	NA	16	179
Cardboard from the Commissary	NA	NA	NA	152	621

Source: Scott AFB 2005f

3.11.2 EXISTING CONDITIONS

3.11.2.1 Transportation and Circulation

The 126 ARW installation at Scott AFB is located approximately 20 miles east of St. Louis, Missouri, and is near the cities of O'Fallon and Belleville, Illinois. I-64, which is located less than 1 mile north of Scott AFB, provides east-west regional access to the area. Illinois Route 158/Air Mobility Drive provides north-south access to the area. Several other highways are located in the area and provide access to Scott AFB and the 126 ARW.

Access to the 126 ARW installation is provided by the Shiloh or Belleville Gates. Additionally, during drill weekends, access to the 126 ARW installation is provided by Wherry Gate. East Drive, which provides access between Golf Course Road to the north and South Drive to the south, is the primary roadway providing access to the 126 ARW facilities (Scott AFB 2004a). Several other smaller roads originate from East Drive.

3.11.2.2 Utilities

The following discussion summarizes the major utility systems.

Water

The 126 ARW receives its potable water through the same system that serves Scott AFB. Potable water is supplied to Scott AFB from the Illinois American Water Company via two transmission mains. The distribution system includes about 65 miles of piping and serves approximately 15,000 personnel and over 2,000 facilities and housing units. Existing water storage capacity is considered adequate to meet required maximum daily demand. However, the potable water system has several deficiencies in that it is old (approximately 60 years old), deteriorated, and corroded. Consideration is being given to privatizing the system (Scott AFB 2004a). Once the decision has been made, the water system will be brought up to code within five years. The decision to privatize is projected to be made in January 2006 (personal communication, Smith 2005).

Wastewater Collection and Treatment

Wastewater generated on the 126 ARW installation is managed by the same wastewater utility system that serves Scott AFB. This system provides wastewater collection, onsite treatment, and disposal of treated wastewater and sludge from Scott AFB facilities and housing areas. The Scott wastewater treatment plant (WWTP) discharges treated wastewater via four permitted outfalls (001, 002, 003, and A01) under permit IL0026859 issued by the Illinois EPA. Similar to the potable water system, the wastewater system has several deficiencies including deterioration

and overloading during heavy rainfall. Consideration is currently being given to privatizing the system and relocating the WWTP (Scott AFB 2004a). Once the decision has been made, the system will be brought up to code within five years (personal communication, Smith 2005).

Storm Drainage

Scott AFB is divided into 12 defined drainage basins. Surface runoff generated within the 126 ARW installation is associated with portions of Basins N1 and T1. Basin N1 includes the aircraft ramp area of the 126 ARW, and Basin T1 includes the 126 ARW aircraft hangars, flightline, and bulk fuel storage. Surface water runoff from Basin N1 flows east to Silver Creek via the North Ditch. Surface water runoff from Basin T1 is conveyed via underground piping to an open channel. This surface water then drains into the wetland area located in the eastern portion of Scott AFB before reaching Silver Creek (Scott AFB 2004a).

Natural Gas

Natural gas is provided to the 126 ARW and Scott AFB by Illinois Power. No deficiencies with this system have been identified (Scott AFB 2004a).

Electricity

Electricity is provided to the 126 ARW installation by the Scott AFB electrical system, which comprises 34.5 kilovolts provided by Illinois Power. Primary distribution is largely provided by overhead wooden poles and wooden cross arms. Evaluation of the Scott AFB electrical system indicates that there are several deficiencies, and projects are planned to address these deficiencies (Scott AFB 2004a). Specifically, projects that are planned for the 126 ARW are providing two sources of backup power. These two projects are projected to be completed in 2006 and 2007 (personal communication, Smith 2005).

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4.0 ENVIRONMENTAL CONSEQUENCES

This section of the EA assesses potential environmental consequences associated with the Proposed Action, the Alternative Action, and the No Action Alternative. Potential impacts are addressed in the context of the scope of the Proposed Action as described in Section 2.0 and in consideration of the potentially affected environment, as characterized in Section 3.0.

4.1 EARTH RESOURCES

4.1.1 METHODOLOGY

Protection of unique geologic features, minimization of soil erosion, and the siting of facilities in relation to potential geologic hazards and soil limitations are considered when evaluating impacts to earth resources. Generally, impacts can be avoided or minimized if proper construction techniques, erosion control measures, and structural engineering designs are incorporated into project development.

Analysis of potential impacts to geologic resources typically includes identification and description of resources that could potentially be affected, examination of the potential effects that an action may have on the resource, assessment of the significance of potential impacts, and provision of mitigation measures in the event that potentially significant impacts are identified. Analysis of impacts to soil resources resulting from proposed activities examines the suitability of locations for proposed operations and activities. Impacts to soil resources can result from earth disturbance that would expose soil to wind or water erosion.

4.1.2 IMPACTS

4.1.2.1 Proposed Action

Under the Proposed Action, up to approximately 1.80 acres of surface would be temporarily disturbed as a result of construction and demolition of the proposed facilities and parking areas. There would be approximately 1.75 acres of new impervious surface following completion of all of the proposed construction.

Most of the proposed construction and demolition under the Proposed Action would occur on the Bethalto Silt Loam mapping unit, and the remainder of the proposed activities would occur on the Caseyville Silt Loam and the Wakefield Silt Loam. Because of their slow permeability, drainage issues would have to be resolved prior to construction. Given that the vast majority of the construction proposed would occur on previously developed land, and that artificial drainage has been in place for previous uses, continued development of these parcels should not be

problematic. Construction techniques should include drainage away from facilities to minimize impacts to foundations.

The grading of existing soil and placement of structural fill for new facilities would not substantially alter existing soil conditions at the 126 ARW installation because much of this land has been previously disturbed. There are no special qualities associated with the soils or geologic resources at these sites. Implementation of construction BMPs would minimize impacts associated with erosion. These BMPs would include, but not be limited to installation of silt fencing and sediment traps, application of water sprays to keep soil from becoming airborne, and revegetation of disturbed areas as soon as possible, as appropriate. Therefore, potential impacts to earth resources as a result of the Proposed Action would be minimal.

4.1.2.2 Alternative Action

Under the Alternative Action, there would be three additional construction projects that would occur in addition to the eight demolition/construction projects as described under the Proposed Action. Under this alternative, up to 3.48 acres of surface would be temporarily disturbed as a result of construction and demolition of the proposed facilities and parking areas. There would be approximately 3.43 acres of new impervious surface following completion of all the proposed construction.

As with the Proposed Action, most of the proposed construction and demolition under this alternative would occur on the Bethalto Silt Loam mapping unit, and the remainder of the activities would occur on the Caseyville and the Wakefield Silt Loams. Because of their slow permeability, drainage issues would have to be resolved prior to construction. Given that the vast majority of the construction proposed would occur on previously developed land, and that artificial drainage has been in place for previous uses, continued development of these parcels should not be problematic.

Potential impacts to earth resources as a result of the Alternative Action would be minimal.

4.1.2.3 No Action Alternative

Under the No Action Alternative, none of the proposed construction or demolition activities or the change in aircraft model and associated increase in number of aircraft would occur and there would be no new impacts to earth resources. Conditions would remain as described in Section 3.1.2.

4.2 WATER RESOURCES

4.2.1 METHODOLOGY

Criteria for evaluating impacts related to water resources associated with the Proposed Action and its alternatives are water availability, water quality, and adherence to applicable regulations. Impacts are measured by the potential to reduce water availability to existing users; endanger public health or safety by creating or worsening health hazards or safety conditions; or violate laws or regulations adopted to protect or manage water resources. An impact to water resources would be significant if it would: 1) reduce water availability to or interfere with the supply of existing users; 2) create or contribute to overdraft of groundwater basins or exceed safe annual yield of water supply sources; 3) adversely affect water quality or endanger public health by creating or worsening adverse health hazard conditions; 4) threaten or damage unique hydrologic characteristics; or 5) violate established laws or regulations that have been adopted to protect or manage water resources of an area. Impacts of flood hazards related to proposed actions can be significant if such actions are proposed in areas with high probabilities of flooding or in some way alter flood stages. These impacts can often be mitigated through the use of specific design features to minimize the effects of flooding.

The Illinois EPA Bureau of Water and the USACE are the regulatory agencies that govern water resources in the state of Illinois. The CWA of 1977 regulates pollutant discharges and development activities that could affect aquatic life forms or human health and safety.

4.2.2 IMPACTS

4.2.2.1 Proposed Action

With regard to water resources, the primary concerns associated with the Proposed Action include effects on water quality during construction activities, and changes to surface water drainage and groundwater recharge.

In general, increases in impervious surfaces act to increase peak discharge volumes and speed delivery of water to nearby waterways, which ultimately increases the potential for flooding as well as the transport of pollutants to surface waters. In undeveloped land, rainfall is collected and stored in vegetation, in the soil column, or in topographic depressions. Water is then utilized by plants and respired, or it moves slowly into groundwater and/or eventually to water bodies where it slowly moves through the hydrologic cycle. Removal of vegetation and/or soil compaction decreases infiltration into the soil column and thereby increases the quantity and timing of surface runoff.

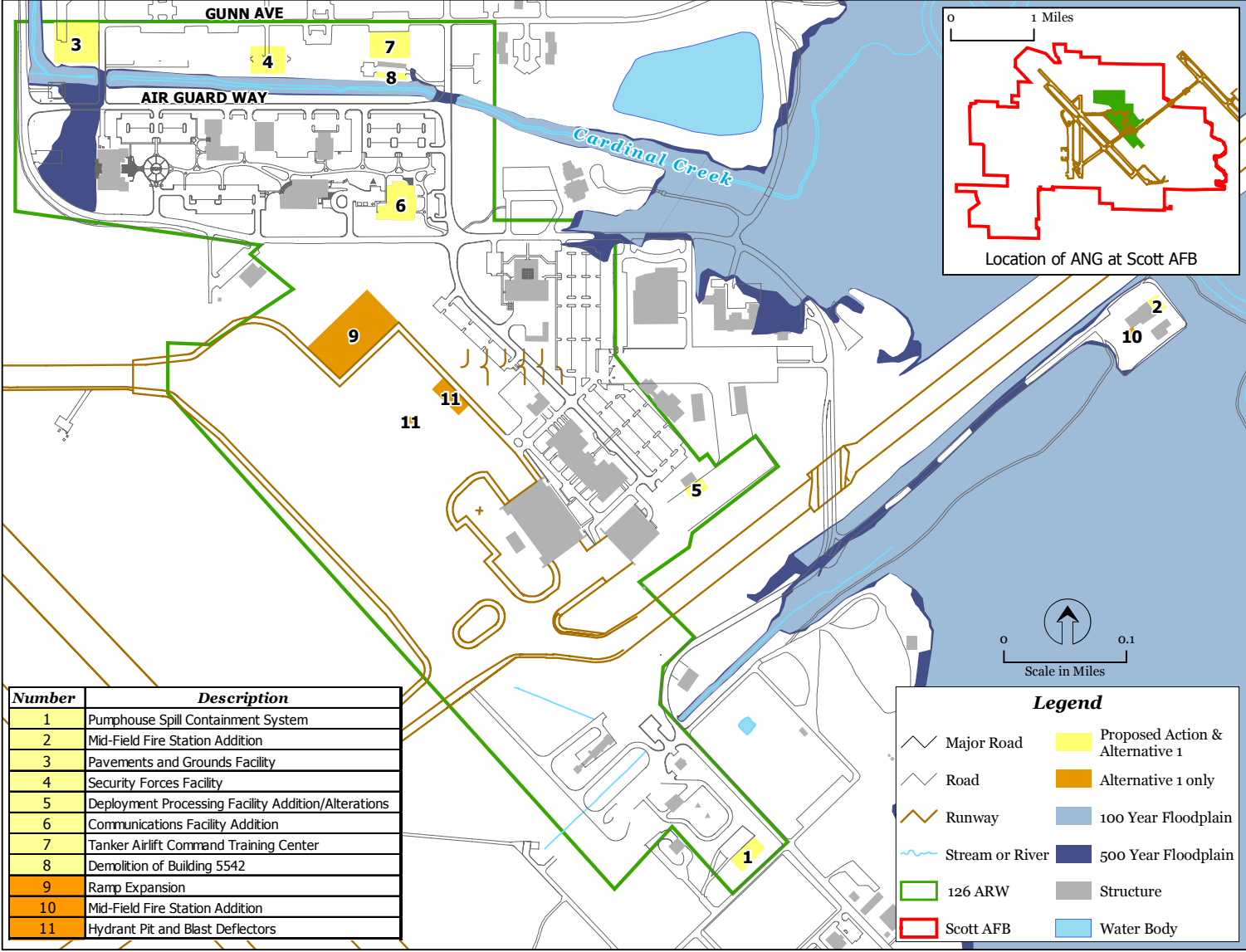
Replacement of vegetation with an impervious surface, such as asphalt or concrete, eliminates any potential for infiltration and also speeds up delivery of the water to nearby drainage channels. With less storage capacity in the soil column and vegetation, urban streams rise more quickly during storm events and have higher peak discharge rates, both of which increase the potential for flooding downstream and damage to public infrastructure and private property.

The Proposed Action would involve approximately 1.75 acres of new impervious surfaces for the building footprints and pavements of the proposed facilities. Under the conditions of the Scott AFB industrial storm water permit, the 126 ARW is required to file a Notice of Intent with the Illinois EPA for construction activities. Additionally, implementation of BMPs to minimize the potential for exposed soils or other contaminants from construction activities to reach nearby surface waters in accordance with the Scott AFB SWPPP is required. Such BMPs could include the use of silt fences, covering of soil stockpiles, use of secondary containment for the temporary storage of hazardous liquids, detention/retention ponds, and establishment of buffer areas, as appropriate.

The proposed facilities and pavements would increase the amount of impervious surfaces on the installation, resulting in an increase in the amount of surface runoff and a decrease in ground water recharge at the installation. The proposed construction activities would require modifications to the installation storm drainage system (e.g., drainage ditches and basins) and an update to the SWPPP in order to properly manage storm water. Site drainage would be addressed within the updated SWPPP such that there would be no deleterious impacts to receiving waters as a result of these projects.

As described in Section 3.2, portions of the 100-year and 500-year floodplains are located within the 126 ARW installation (Figure 4.2-1). Projects associated with the Proposed Action have been sited to avoid these floodplain areas, so no impacts to or from floodplains are anticipated under the Proposed Action. The increase of impervious surfaces on the installation is not expected to affect the 100-year or 500-year predicted flood elevations of Silver Creek or Cardinal Creek due to the implementation of BMPs in accordance with the SWPPP that would be required for the new construction.

The rate of groundwater recharge of the upper aquifer located directly beneath the installation may be minimally impacted due to the increase of approximately 1.75 acres of impervious surfaces. However, given the developed nature of the site and the high percentage of impervious surfaces already existing, the change in surface runoff and groundwater recharge is expected to be negligible.



**Figure 4.2-1. Floodplains in Relation to Proposed Construction Activities
at the 126 ARW Installation at Scott AFB, Illinois**

4.2.2.2 Alternative Action

Impacts to water resources would be similar to those described above for the Proposed Action. Under the Alternative Action, however, the amount of new impervious surface would be 3.43 acres, or 1.68 acres more than under the Proposed Action. Implementation of appropriate BMPs during construction, as well as updates to the SWPPP would minimize impacts to water quality such that no deleterious impacts would be expected. Projects associated with the Alternative Action have been sited to avoid the 100-year and 500-year floodplains located within the installation. The increase of impervious surfaces on the installation is not expected to affect the 100-year or 500-year predicted flood elevations of Silver Creek or Cardinal Creek due to the implementation of BMPs in accordance with the SWPPP that would be required for the new construction.

4.2.2.3 No Action Alternative

Under the No Action Alternative, there would be no ground disturbing activities or increases in impervious surfaces and thus no impacts to water resources at the 126 ARW installation would occur.

4.3 BIOLOGICAL RESOURCES

4.3.1 METHODOLOGY

The evaluation of impacts to biological resources is based upon (1) the importance (legal, commercial, recreational, ecological, or scientific) of the resource, (2) the rarity of a species or habitat regionally, (3) the sensitivity of the resource to proposed activities, and (4) the duration and magnitude of ecological ramifications. Impacts to biological resources are considered to be greater if priority species or habitats are adversely affected over relatively large areas and/or disturbances cause reductions in population size or distribution of a priority species.

4.3.2 IMPACTS

4.3.2.1 Proposed Action

Vegetation

Approximately 1.75 acres of maintained turf grass and otherwise undeveloped land is expected to be directly impacted and permanently lost due to building construction, parking lots, and paving. While there are no structures currently at these project sites, the land has been previously disturbed. Although a few scattered maple and oak trees would be cleared for the

construction of the pavement and grounds facility, no forested areas would be impacted by implementation of the Proposed Action.

Wildlife

The permanent loss of approximately 1.75 acres of mowed grass area and otherwise undeveloped land would have minimal impact on resident wildlife, given that this area does not currently provide quality habitat and given the high level of human activity in the area of proposed activities. Temporary, indirect impacts to wildlife caused by increased noise and activity levels during construction are expected to be insignificant given that this is an USAF installation, where high noise levels are daily occurrences.

Rare, Threatened, and Endangered Species

The implementation of the Proposed Action would have no impact on state or federally listed species because these species are not known to occur within the project area. Additionally the Proposed Action is not expected to impact any potential habitat for state or federally listed species. The USFWS has indicated their concurrence with this assessment (Appendix A).

Wetlands and Other Aquatic Habitats

Based on a review of the recently completed wetland delineation report, no direct impacts to identified wetlands or other Waters of the U.S. are anticipated as a result of implementation of any of the projects included in the Proposed Action. Based on a site visit in July 2005, it is clear that none of these projects would directly impact wetlands or waters of the U.S.

Indirect impacts to wetlands and other aquatic habitats could result from implementation of the Proposed Action if proper controls and BMPs are not implemented. However, these types of impacts are not quantifiable and are typically avoided/minimized by implementation of storm water detention facilities. In addition, these impacts would be further mitigated by the maintenance of a 50-foot vegetative buffer strip between any wetlands or other waters of the U.S. and any construction areas associated with the Proposed Action. The SWPPP would be updated prior to implementation of the Proposed Action, to minimize the potential for runoff from construction sites to affect wetlands.

4.3.2.2 Alternative Action

Under the Alternative Action, the eight construction and demolition projects associated with the Proposed Action would occur along with additional construction activities that would impact approximately 1.7 additional acres. Implementation of the Alternative Action would also result in a net increase of four aircraft and 27 personnel. The addition of four aircraft and 27 assigned

personnel would result in a slight difference in aircraft operations, noise and emissions and human population on the installation. The slight increase of aircraft and personnel would not likely cause additional substantial impacts to wildlife and plant species as compared to the Proposed Action. Therefore, potential impacts to biological resources resulting from implementation of the Alternative Action would be minimal and nearly consistent with those resulting from implementation of the Proposed Action.

4.3.2.3 No Action Alternative

Under the No Action Alternative, none of the activities described under the Proposed Action or Alternative Action would occur, and no impacts other than those associated with the current day-to-day operation of the airfield, would occur to biological resources. The urban grass communities and sparse tree area would be unaffected and the current minimal wildlife use of the area would be expected to continue. This alternative would not result in impacts to biological resources over and above those that have occurred historically due to habitat fragmentation and the construction of buildings and parking lots.

4.4 AIR QUALITY

4.4.1 METHODOLOGY

Air emissions resulting from the Proposed Action were evaluated in accordance with federal, state, and local air pollution standards and regulations. Air quality impacts from a proposed activity or action would be significant if they:

- increase ambient air pollution concentrations above any NAAQS;
- contribute to an existing violation of any NAAQS;
- interfere with or delay timely attainment of NAAQS; or
- impair visibility within any federally mandated federal Class I area.

The approach to the air quality analysis was to estimate the increase in emission levels due to the action alternatives.

According to USEPA's General Conformity Rule in 40 CFR Part 51, Subpart W, any proposed federal action that has the potential to cause violations in a NAAQS nonattainment or maintenance area must undergo a conformity analysis. A conformity analysis is not required if the action occurs within an attainment area. Since St. Clair County is in nonattainment for the new PM_{2.5} and 8-hour O₃ standards, a conformity determination must be performed if project

emissions exceed the *de minimis* thresholds of 100 TPY for the ozone precursors NO_x and VOC. The *de minimis* threshold for PM_{2.5} has not yet been designated by the USEPA.

As described in Section 3.4.1, Section 169A of the CAA established the PSD regulations to protect the air quality in regions that already meet the NAAQS. Certain national parks, monuments, and wilderness areas have been designated as PSD Class I areas, where appreciable deterioration in air quality is considered significant. The nearest PSD Class I area is more than 100 miles from the region potentially affected by the action alternatives. Therefore, these potential activities would be unlikely to have a significant impact on any PSD Class I areas.

4.4.2 IMPACTS

4.4.2.1 Proposed Action

The Proposed Action would involve construction, demolition, and paving activities, including construction of new structures, additions to or demolition of existing structures, and installation of new pavement.

Construction Emissions. Emissions during the construction period were quantified to determine the potential impacts on regional air quality. Calculations of VOC, NO_x, CO, and PM₁₀ emissions from construction, grading, and paving activities were performed using USEPA emission factors compiled in the *California Environmental Quality Air Quality Handbook* (South Coast Air Quality Management District 1993), *Calculations Methods for Criteria Air Pollution Emission Inventories* (Jagielski and O'Brien 1994), and *Air Emissions Inventory Guidance Document for Mobile Sources at Air Force Installations* (O'Brien and Wade 2002). The emission factors for building construction include contributions from engine exhaust emissions (i.e., construction equipment, material handling, and workers' travel) and fugitive dust emissions (e.g., from grading activities). Demolition emissions evaluated include fugitive dust and transport of demolition debris offsite. Site preparation, grading, and trenching emissions include fugitive dust from ground disturbance, plus combustive emissions from heavy equipment during the entire construction period. Paving emissions include combustive emissions from bulldozers, rollers, and paving equipment, plus emissions from a dump truck hauling pavement materials to the site. Estimated emissions that would occur from construction, demolition, grading, paving, and painting activities under the Proposed Action are presented in Table 4.4-1. The emissions shown would occur over the duration of the construction period.

Emissions generated by construction, demolition, and paving projects are temporary in nature and would end when construction activities were completed. The emissions from fugitive dust (PM₁₀) would likely be less than those presented in Table 4.4-1 due to the implementation of control measures in accordance with standard construction practices. For instance, frequent

spraying of water on exposed soil during construction, proper soil stockpiling methods, and prompt replacement of ground cover or pavement are standard landscaping procedures that could be used to minimize the amount of dust generated during construction. Using efficient practices and avoiding long periods where engines are running at idle may reduce combustion emissions from construction equipment also. Vehicular combustion emissions from construction worker commuting may be reduced by carpooling.

Table 4.4-1. Construction Emissions – Proposed Action

<i>Source</i>	EMISSIONS (IN TONS)				
	<i>CO</i>	<i>VOC</i>	<i>NO_x</i>	<i>SO_x</i>	<i>PM₁₀</i>
Construction	1.8	0.6	8.2	< 0.1	0.6
Demolition	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Grading/Trenching	2.6	0.5	4.2	0.4	0.3
New Pavement	0.2	< 0.1	0.4	< 0.1	< 0.1
TOTAL	4.6	1.1	12.9	0.4	0.9

In general, combustive and fugitive dust emissions would produce localized, short-term elevated air pollutant concentrations, which would not result in any long-term impacts on the air quality in St. Clair County or AQCR 70. The temporary construction-related emissions of PM₁₀ and SO_x would not be expected to adversely impact the air quality or visibility in any of the PSD Class I areas in the vicinity of the Base.

Operational Emissions. Air emissions after the Proposed Action is completed would be expected to be slightly more than current operations, due to utilities such as boilers, heaters, and emergency generators being included with the new facilities. However, new utility equipment would be more efficient and have lower air pollutant emissions than older boilers and heaters at the Base. Similarly, new fuel transfer and vehicle maintenance facilities would be constructed with modern equipment designed to minimize air emissions. Nevertheless, the installation or modification of any air emission sources, such as boiler and heaters, emergency generators, fuel storage, etc., may trigger permitting requirements with the Illinois EPA. It is expected that the new operational emissions would not result in any long-term impacts on the air quality in St. Clair County or AQCR 70.

These projected annual emissions are below the *de minimis* thresholds for conformity with Illinois SIP and less than 10 percent of the regional emissions shown in Table 3.4.3. A conformity determination, therefore, is not required for this action.

4.4.2.2 Alternative Action

The Alternative Action would include the same construction, demolition, and paving activities, including construction of new structures, additions to or demolition of existing structures, and installation of new pavement, as presented in the previous section for the Proposed Action. The Alternative Action would also include a conversion from 8 KC-135E to 12 KC-135R aircraft, construction of additional facilities and pavements, including an expansion of the aircraft parking apron, plus the addition of 27 personnel to the 126 ARW.

Construction Emissions. Emissions during the construction period under the Alternative Action were calculated using similar methodology as for the Proposed Action and are presented in Table 4.4-2.

Table 4.4-2. Construction Emissions Under the Alternative Action

<i>Source</i>	EMISSIONS (IN TONS)				
	<i>CO</i>	<i>VOC</i>	<i>NO_x</i>	<i>SO_x</i>	<i>PM₁₀</i>
Construction	1.9	0.6	8.5	< 0.1	0.6
Demolition	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Grading/Trenching	11.1	1.9	14.3	1.4	1.0
New Pavement	1.5	0.3	3.1	0.2	0.2
TOTAL	14.6	2.8	26.0	1.6	1.8

In general, combustive and fugitive dust emissions would produce localized, short-term elevated air pollutant concentrations, which would not result in any long-term impacts on the air quality in St. Clair County or AQCR 70. The temporary construction-related emissions of PM₁₀ and SO_x would not be expected to adversely impact the air quality or visibility in any of the PSD Class I areas in the vicinity of Scott AFB.

Operational Emissions. In addition to the projected minor changes in utility emissions described for the Proposed Action, the emissions from aircraft operations at the Base, including landings and take-offs, touch-and-goes, and low approaches, would change due to the replacement of 8 KC-135E aircraft with 12 KC-135R aircraft. The effect of the increase in aircraft assigned to the 126 ARW under the Alternative Action is roughly offset by the differences in aircraft engine characteristics between the two models, with a net effect being decreases in emissions of CO, VOC, and PM₁₀, and an increase in emissions of NO_x and SO₂. No changes in emissions from ground-based mobile sources, such as on-road or off-road vehicles, are expected to occur as a result of the Alternative Action. Air emissions from stationary sources related to aircraft maintenance, including aerospace ground equipment, engine test cells, chemical usage, degreasing, and painting are expected to remain approximately the

same as described under the baseline emissions with the replacement of 8 KC-135E aircraft with 12 KC-135R aircraft. The KC-135R model is more efficient and would require less maintenance. Table 4.4-3 presents a summary of estimated air emissions from mobile sources under the Alternative Action and changes relative to baseline emissions.

**Table 4.4-3. Estimated Change in Aircraft Emissions at Scott AFB,
as a Result of the Alternative Action**

	ADDITIONAL ANNUAL EMISSIONS (TPY)				
	<i>CO</i>	<i>VOC</i>	<i>NO_x</i>	<i>SO₂</i>	<i>PM₁₀</i>
Aircraft Operations	-167	-233	+74	+5	-6

Note: A positive (+) change indicates an increase over baseline emissions; a negative (-) change indicates a decrease compared with baseline emissions.

It is expected that these changes in emissions due to the Alternative Action would not result in any long-term impacts on the air quality of St. Clair County or AQCR 70.

Indirect Emissions. Implementation of the Alternative Action would result in the addition of 27 new employees commuting to and from the installation. The resulting increase in commuting emissions were calculated using emission factors from *Air Emissions Inventory Guidance Document for Mobile Sources at Air Force Installations* (O'Brien and Wade 2002). Average vehicle occupancy was assumed to be 1.1 passengers per vehicle, with vehicles assumed to have an average model year of 1998. Annual criteria pollutant emissions from personally-owned vehicles commuting of 25 additional vehicles, assuming an average round-trip commuting distance of 20 miles, 5 days per week, 50 weeks per year, are shown in Table 4.4-4.

**Table 4.4-4. Additional Indirect Emissions from Additional POV Commuting
due to the Alternative Action**

<i>Source</i>	ADDITIONAL EMISSIONS (TONS / YEAR)				
	<i>CO</i>	<i>VOC</i>	<i>NO_x</i>	<i>SO_x</i>	<i>PM₁₀</i>
Commuting	2.9	0.2	0.2	< 0.1	0.2

It is expected that these minor additional emissions due to personally-owned vehicle commuting would not result in any long-term impacts on the air quality of St. Clair County or AQCR 70.

4.4.2.3 No Action Alternative

Under the No Action Alternative, no construction emissions would occur and operational emissions would be identical to current baseline emissions that were presented in Section 3.4.2.

4.5 NOISE

4.5.1 METHODOLOGY

Noise associated with aircraft operations at Scott AFB and MidAmerica Airport, other transportation-related noise, and construction activities associated with the Action Alternatives will be considered and compared with current conditions to assess impacts. Data developed during this process will also support analyses in other resource areas.

Based on numerous sociological surveys and recommendations of federal interagency councils, the most common benchmark referred to is an L_{dn} of 65 dBA. This threshold is often used to determine residential land use compatibility around airports, highways, or other transportation corridors. Two other average noise levels are also useful:

- An L_{dn} of 55 dBA was identified by the USEPA as a level “. . . requisite to protect the public health and welfare with an adequate margin of safety” (USEPA 1974). Noise may be heard, but there is no risk to public health or welfare.
- An L_{dn} of 75 dBA is a threshold above which effects other than annoyance may occur. It is 10 to 15 dBA below levels at which hearing damage is a known risk (OSHA 1983). However, it is also a level above which some adverse health effects cannot be categorically discounted.

Public annoyance is the most common impact associated with exposure to elevated noise levels. When subjected to L_{dn} of 65 dBA, approximately 12 percent of persons so exposed will be “highly annoyed” by the noise. At levels below 55 dBA, the percentage of annoyance is correspondingly lower (less than 3 percent). The percentage of people annoyed by noise never drops to zero (some people are always annoyed), but at levels below 55 dBA it is reduced enough to be essentially negligible.

4.5.2 IMPACTS

4.5.2.1 Proposed Action

Under the Proposed Action, neither military nor civil aircraft operations at Scott AFB and MidAmerica Airport would change from current conditions. Therefore, aviation-related noise would remain as described in Section 3.5.2, and would continue to be the dominant noise source in the region’s acoustic environment.

However, under this proposal, the 126 ARW would build some new facilities, demolish one older facility, and upgrade other aspects of the installation’s supporting infrastructure through

additions and alterations. There are several aspects of this proposal that have the potential to create noise impacts in the ROI.

Construction would most likely occur over an extended time-frame, and at any one time, only a small number of projects would be expected to be ongoing simultaneously. Therefore, noise associated with active construction sites would be expected to be localized, intermittent, and of relatively limited duration. A hypothetical scenario was developed to assess potential noise associated with construction activities on a construction site. Primary noise sources during such activity would be expected to be heavy vehicles and earth moving equipment. Table 4.5-1 shows sound levels associated with typical heavy construction equipment under varying modes of operation.

Table 4.5-1. Typical Equipment Sound Levels

<i>Equipment</i>	SOUND LEVEL (IN DBA) UNDER INDICATED OPERATIONAL MODE¹		
	<i>Idle Power</i>	<i>Full Power</i>	<i>Moving Under Load</i>
Forklift	63	69	91
Backhoe	62	71	77
Dozer	63	74	81
Front-End Loader	60	62	68
Dump Truck	70	71	74

Note: 1. Measured at 125 feet.

Source: USAF 1998.

For the assessment of construction noise, a hypothetical “construction area” was designated that approximated the estimated area that would be involved in supporting a major project under the proposal.

The first step in the analysis was to estimate equipment usage and calculate the total acoustic energy that would be expected to be generated on the site. These data also provided information on an individual piece of equipment’s relative contribution to the total amount of acoustic energy generated on the site. Next, individual equipment was spatially distributed throughout the construction zone considering “most likely” areas of operation. This yielded an equipment-weighted contribution to total site acoustic energy at different points throughout the site. With this spatial distribution, it was then possible to calculate a mean and standard deviation for the distribution along an axis running through the site.

These data were then used to normally distribute the total acoustic energy throughout the site. Finally, the normally distributed energy from multiple source points throughout the site was

aggregated at a range of points at varying distances from the site edge. This allowed a determination at those points of the total acoustic energy that had emanated off-site.

Calculations based on this conservative scenario indicate an equivalent noise level over an eight-hour period ($L_{eq(8)}$) of 67 dBA at a distance of 500 feet from the edge of the site. This is then normalized to an equivalent noise level over a 24-hour period ($L_{eq(24)}$) of 62 dBA. Since no construction activity would be expected to occur at night, this would be equivalent to L_{dn} 62. At a distance of 1,000 feet from the site, noise levels are $L_{eq(8)}$ 62 dBA and $L_{eq(24)}$ 58 dBA. Due to the conservative nature of the scenario, and the fact that sound attenuation only due to spherical spreading was considered, actual levels emanating off-site would be expected to be lower.

It should be noted that the areas involving construction are situated within areas already exposed to elevated noise from airfield operations. All projects are located in, or immediately proximate to, air-side locations directly supporting aircraft operations (runways, taxi-ways, parking ramps, etc.). These areas are well within the L_{dn} 65 contour created by aircraft noise. Construction noise emanating off-site would probably be noticeable in the immediate site vicinity, but would not be expected to create adverse impacts, or alter noise contours associated with aircraft operations. Furthermore, construction-related noise is intermittent and transitory, ceasing at the completion of construction. The long-term acoustic environment on Scott AFB and the MidAmerica Airport would be expected to remain relatively unchanged from current conditions as a result of the Proposed Action.

4.5.2.2 Alternative Action

Under the Alternative Action, the 126 ARW would accomplish the proposed construction projects discussed in Section 2.2. Additionally, three other construction projects would be accomplished. There are no unique aspects of these added projects that would result in major, long-term changes to the acoustic environment. Noise associated with all of the construction associated with this alternative would be as described above in Section 4.5.2.1.

In addition to the construction activities described above, the 126 ARW's current KC-135E aircraft would be replaced with KC-135R aircraft. As part of this conversion, the unit's current PAA of 8 aircraft would be increased to 12 PAA aircraft. To assess noise impacts associated with these changes, an estimated 50 percent increase in based KC-135 aircraft operations is assumed. Table 4.5-2 reflects this change. Average daily operations at Scott AFB and MidAmerica Airport would increase from approximately 125 to 143, a nearly 14 percent increase.

Table 4.5-2. Average Daily Operations at Scott and MidAmerica Airport with Aircraft Modifications¹

<i>Aircraft</i>	ARRIVALS		DEPARTURES		CLOSED PATTERNS ²	
	<i>Day</i>	<i>Night</i>	<i>Day</i>	<i>Night</i>	<i>Day</i>	<i>Night</i>
Based KC-135R	6.094	0.678	6.763	0.012	18.274	2.030
Other Based Military	7.785	0.526	7.638	0.077	9.914	0
Transient Military	5.007	0.039	5.007	0.039	0	0
Air Carrier / Air Taxi	2.443	0	2.443	0	0	0
General Aviation	5.524	0	5.515	0	13.662	0
Total	26.853	1.243	27.366	0.128	41.850	2.030

Notes 1. Daily operations are based on averages of annual operations; therefore, numbers do not round.

2. Since closed patterns consist of a landing and a takeoff (two aviation operations), the 43.880 closed patterns shown equate to 87.760 aviation operations.

Source: Personal communication, Wein 2005

Aircraft noise levels at Scott AFB and MidAmerica Airport resulting from this alternative are depicted in Figure 4.5-1, and the land areas encompassed by these levels are compared with current noise levels in Table 4.5-3.

Table 4.5-3. Land Area Exposed to Indicated Sound Levels Under Alternative Action

<i>Sound Level (In L_{dn})</i>	ACRES OF LAND ¹		<i>Net Change</i>	<i>Percent Change</i>
	<i>Current</i>	<i>Alternative</i>		
65 – 70	1,736.1	1,424.7	-311.4	-17.9 %
70 – 75	850.09	587.07	-263.02	-30.9 %
75 – 80	410.52	319.64	-90.88	-22.1 %
80 – 85	193.731	140.538	-53.193	-27.5 %
> 85	81.259	71.352	-9.907	-12.2 %
Total > 65	3,271.7	2,543.3	-728.4	-22.3 %

Note: 1. Land areas exposed to indicated sound levels. Total area exposed to L_{dn} 65 or greater is shown as Totals.

Source: Wasmer and Maunsell 2002.

As shown, overall noise exposure around Scott AFB and MidAmerica Airport is reduced as a result of conversion from the KC-135E to the KC-135R model, despite the increase in number of aircraft and relative increase in number of daily operations. Although based-military operations increase, the reduced noise levels created by the engines on the KC-135R aircraft result in an overall decrease in land areas exposed to noise levels.

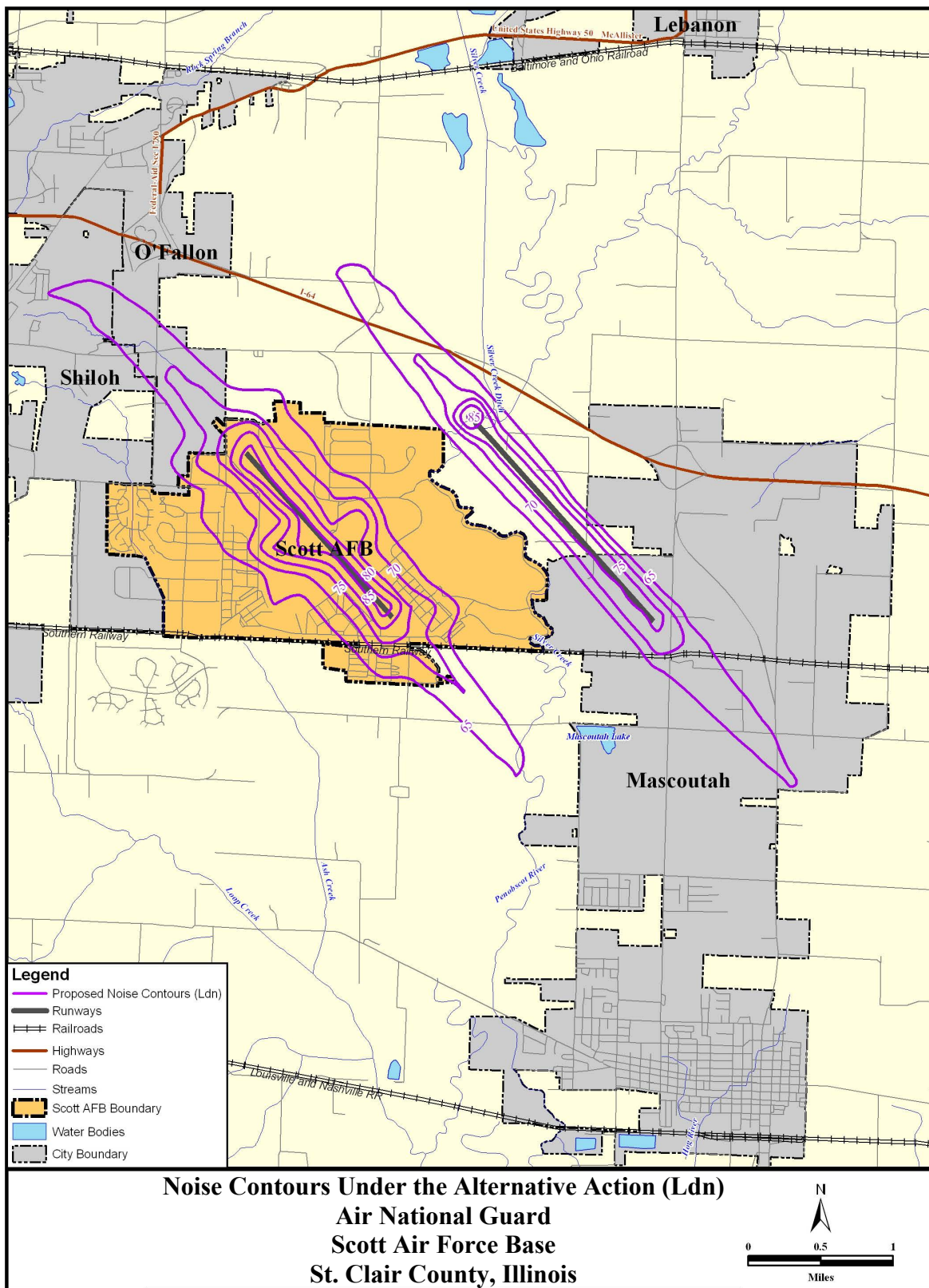


Figure 4.5-1. Scott AFB and MidAmerica Airport Noise Contours

Overall, the aircraft conversion would result in positive impacts (i.e., a general reduction of noise exposure) in the area around the airfields. Nevertheless, it should be noted that these reductions probably would not be noticeable away from the airfields.

4.5.2.3 No Action Alternative

Under this alternative, no proposed construction activities would occur. Since no construction would occur, the noise associated with such activities would not result. Since no changes to aircraft operations or other transportation activities would result from this alternative, noise levels at Scott AFB and MidAmerica Airport would remain as described in Section 3.5.2.

4.6 LAND USE AND VISUAL RESOURCES

4.6.1 METHODOLOGY

Land Use

Land use impacts can result if an action displaces an existing use or affects the suitability of an area for its current, designated, or formally planned use. Analysis considers whether the resulting changes improve public safety and well being, and whether they are compatible with surrounding uses and functions. A proposed activity may be incompatible with local plans and regulations that provide for orderly development to protect the general welfare of the public, or conflict with management objectives of a federal or state agency of an affected area. Compatible land use development would need to comply with federal and state environmental laws and regulations.

Criteria used to evaluate impacts on land use include:

- potential for displacement of an existing desired use;
- potential to disrupt an existing or planned future land use;
- potential to reduce the suitability of the surrounding land for its current or planned use;
- potential for inconsistency with the installation's plans, regulations, and guidelines (including the AICUZ program) that provide for appropriate development of the land; and
- potential for incompatibility of the action with plans and management objectives for adjacent areas under control of other entities (e.g., state, local, federal).

Projects are evaluated for their potential to affect existing and planned land uses either positively (a beneficial effect), or negatively (a detracting effect).

Visual Resources. Federal and state land custodians often adopt regulations and procedures to protect visual resources within their jurisdiction. In urban areas, local agencies may enforce standards to control the appearance of development. To assess impacts to visual resources, areas that have high visual value or low tolerance for visible modification or have prescribed guidelines are identified. The degree to which an action would modify the existing surroundings is used to assess the level of impact.

4.6.2 IMPACTS

4.6.2.1 Proposed Action

Land Use. Overall, the proposed projects all contribute some benefit to the overall functioning and organization of the 126 ARW installation. Some projects are sited on open space and would convert it to mission-supporting use. Others are located in areas that are already developed with similar or compatible adjacent uses. Demolishing the old carport would allow reuse of this site for the new TACTC. Each project has been sited appropriately, in consideration of existing environmental and operational constraints and opportunities. Individual proposed projects would result in an increase in safety and/or functionality for the 126 ARW and are consistent with the 126 ARW plans and regulations that guide them.

None of the projects are located in safety zones; they are each compatible with AICUZ guidelines and noise exposure level at specific sites; and they do not violate height criteria for safe airfield operations. Noise during construction may interfere with conversations in nearby facilities, but this would be temporary and have no long term impact on land use.

Proposed projects would not interfere with existing and planned future uses on Scott AFB. Particularly, the future land use plan and planned projects in the immediate vicinity of the 126 ARW would be compatible with these proposed projects. These include reconfiguring the golf course, augmenting outdoor recreation areas, and constructing a new Network Operations facility to the north and constructing a new Administrative Headquarters facility immediately to the east of the 126 ARW parcel. Also, none of the projects would generate safety constraints on other activities or limit future siting options outside the 126 ARW installation.

No impact to off-Base locations would result from the proposed projects since they are set back a substantial distance from the Base boundary and are buffered by intervening activities, vegetation, and terrain.

Visual Resources. None of the proposed projects would be visible from off Base. Therefore, there would be no impact on the visual character of the surrounding vicinity, or on the experience of persons approaching the Base or using local roads.

The construction projects would each create change in their immediate surroundings, but they would be typical of the existing context and would not detract from the visual character of the Base. Positive appearance of the built environment is valued for its effect on morale. The 126 ARW's existing facilities are new and provide a positive visual image. These additional structures would reinforce the high-caliber appearance of their enclave. The new brick façade on the Security Force's facility would improve its appearance and conformance with the architectural style of the Base.

4.6.2.2 Alternative Action

Land Use. Under the Alternative Action, the expanded ramp, new hydrant pit, and Mid-Field Fire Station projects are consistent with airfield and aviation uses. They would improve aviation and airfield capabilities and safety. They are compatible with existing and planned uses and development on Scott AFB. In effect, they would improve operating conditions and thus benefit the designated land use.

Similarly, noise conditions would improve under this alternative. Even though aircraft numbers and operations would increase, the quieter engines of the new models would result in substantially reduced noise levels at the airfield. As reported in Table 4.5-3, a 22-percent reduction (about 730 acres) in the area exposed to levels above L_{dn} 65 dB would result. This would benefit residential areas to the northwest and southeast of the MidAmerica airport runway. Figure 4.5-1 shows the resulting noise contours relative to surrounding communities and roadways. The land is predominantly agricultural in use, with some residences located along the major roads and highways. Future residential development would be controlled by St. Clair County's existing plans and zoning. Both the AEOZ and the Sub-Area plan for the Scott-Joint Use Area provide the framework for future land use decisions around the airport complex.

Visual Resources. As described under the Proposed Action, the projects would be noticeable, but consistent with surrounding airfield equipment, structures, and pavements. Therefore, visual resources would not be affected by the Alternative Action.

4.6.2.3 No Action Alternative

Land Use. Under the No Action Alternative, there would be no change in land use on the installation; therefore no impacts, either positive or negative would result.

Visual Resources. There would be no change in the visual environment from new construction under the No Action Alternative; therefore, no impacts would result. However, if Building 5542 is not removed, it will eventually deteriorate and become dilapidated. Also, the benefit of the new brick façade on the Security Forces building would not be realized. The resulting impact on visual resources from not undertaking these actions is negative but minor.

4.7 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

4.7.1 METHODOLOGY

In order to assess the potential socioeconomic and environmental justice impacts of the Proposed Action, employment, race, ethnicity, poverty status and age characteristics of populations in the ROI were analyzed, as presented in Section 3.7. Potential socioeconomic impacts are assessed in terms of the direct effects of the proposal on the local economy and related effects on population and socioeconomic attributes. With regard to environmental justice issues, where impacts may result from implementing the proposal, the demographics and income levels of affected populations are examined to determine whether impacts are disproportionately borne by minorities, children, or low-income persons.

4.7.2 IMPACTS

4.7.2.1 Proposed Action

Under the Proposed Action, the 126 ARW would implement construction and demolition projects as described in Section 2.2. Implementing the proposed construction and demolition projects would result in expenditures of approximately \$14 million over the entire construction period. These expenditures would be spread out over the course of the approximately five-year time period. Although short-term, expenditures would benefit the local economy. Employment associated with construction activities would benefit the local workforce, but would tend to be temporary. Implementing these projects would help maintain an ongoing schedule of construction on Scott AFB that benefits the local communities.

The Proposed Action would not create adverse environmental or health impacts. Consequently, no impacts would be experienced by minority and/or low-income populations or children. None of the projects take place where children could be directly affected. Access to construction areas would be controlled, therefore limiting unauthorized access by any person, including children. Jobs generated by proposed construction projects would benefit the entire community.

4.7.2.2 Alternative Action

Under the Alternative Action, the additional construction projects would increase expenditures by about \$3 million over the \$14 million of the Proposed Action. Impacts to the local economy would be minor, but beneficial, as described under the Proposed Action.

This alternative would also provide increases in direct jobs for supporting four additional aircraft and for 27 firefighter positions. The total increase would be a small percentage of jobs at Scott AFB, but beneficial to the local community. Many of these positions would represent opportunities for part-time jobs and supplemental income for household in the local area.

The Alternative Action is not expected to create significantly adverse environmental or health impacts. Consequently, no impacts would be experienced by minority and/or low-income populations. In addition, there are no known environmental health or safety risks associated with the Alternative Action that may disproportionately affect children. Access to construction areas would be controlled, therefore limiting unauthorized access by any person, including children.

4.7.2.3 No Action Alternative

Under the No Action Alternative, the 126 ARW would maintain their existing facilities and would not construct the facilities proposed. Failure to implement the proposed improvements would not generate any of the beneficial construction-related employment or earnings impacts associated with the Proposed Action. Implementation of the No Action Alternative would not result in any significant adverse socioeconomic or environmental justice impacts.

4.8 CULTURAL RESOURCES

4.8.1 METHODOLOGY

A number of federal regulations and guidelines have been established for the management of cultural resources. Section 106 of the NHPA, as amended, requires federal agencies to take into account the effects of their undertakings on historic properties. Historic properties are cultural resources that are listed in, or eligible for listing in, the NRHP. Eligibility evaluation is the process by which resources are assessed relative to NRHP significance criteria for scientific or historic research, for the general public, and for traditional cultural groups. Under federal law, impacts to cultural resources may be considered adverse if the resources have been determined eligible for listing in the NRHP or have significance for Native American groups. In general, architectural and engineering resources need to be at least 50 years old to be considered for inclusion on the NRHP.

Analysis of potential impacts to cultural resources considers both direct and indirect impacts. Direct impacts may occur by physically altering, damaging, or destroying all or part of a resource; altering characteristics of the surrounding environment that contribute to the resource's significance; introducing visual or audible elements that are out of character with the property or alter its setting; or neglecting the resource to the extent that it deteriorates or is destroyed. Direct impacts are assessed by identifying the types and locations of proposed activities and determining the exact location of cultural resources that could be affected. Indirect impacts result primarily from the effects of project-induced population increases.

4.8.2 IMPACTS

4.8.2.1 Proposed Action

Under the Proposed Action, the 126 ARW would implement eight separate projects that include facility demolition, additions to existing facilities, and new construction. Although the projects of the Proposed Action involve some level of ground disturbance, all are situated in areas that are heavily disturbed or have been previously surveyed for cultural resources. No cultural resources have been located where the projects associated with the Proposed Action would occur; thus, none of the projects are expected to impact historic or Native American archaeological resources.

Impacts to architectural and engineering resources could occur under the Proposed Action (Table 4.8-1). Under the Proposed Action, five buildings would be altered or receive additions, and one would be demolished. Five of the structures were built between 1999 and 2001; in addition to being less than 50 years of age, none are associated with significant historic events that would merit NRHP eligibility. However, Building 5542, a Multi-Vehicle Carport, was constructed in 1951 and has not been evaluated with regard to its NRHP eligibility; not only is it more than 50 years old, but it could also be eligible under special considerations afforded to Cold War era architectural and engineering resources. The 126 ARW has coordinated with the Illinois SHPO (Appendix A), and the SHPO has indicated that none of the facilities proposed for alteration and/or demolition qualify as historic properties and therefore, the action would not impact historic resources. In the event of inadvertent discoveries of cultural resources during any project-related activities, all activities at that location would be halted until the find is evaluated by a qualified professional archaeologist, in compliance with federal laws and USAF regulations.

Impacts to traditional resources are not expected under the Proposed Action. The ILANG has initiated contact with the nearby tribes to identify any potential concerns they may have associated with the Proposed Action (Appendix A).

Table 4.8-1. Buildings Potentially Affected Under Action Alternatives

<i>Building Number, Function</i>	<i>Build Date</i>	<i>NRHP Eligibility</i>	<i>Project/Action</i>	<i>Proposed Action</i>	<i>Alternative Action</i>
5542 Multi-vehicle Carport	1951	Unevaluated	Facility Demolition	X	X
5010 Communication Facility	2000	Not eligible	Addition/Alteration to Communication Facility	X	X
3901 Fire Station	2001	Not eligible	Addition/Alteration to Mid-Field Fire Station	X	X
3901 Fire Station	2001	Not eligible	Further Addition to Mid- Field Fire Station		X
5028 Deployment Processing Center	2001	Not eligible	Addition/Alteration to Deployment Processing Center	X	X
5038 Pump House	2001	Not eligible	Construct Pump House Spill Containment	X	X

4.8.2.2 Alternative Action

Under the Alternative Action, the eight projects of the Proposed Action would be implemented along with three additional projects. Like the original eight projects, none of the three additional projects are near known historic or Native American archaeological resources. Additionally, all are situated on previously disturbed areas or areas previously surveyed for cultural resources. As a result, impacts to historic or Native American archaeological resources are not expected under this alternative.

While the three additional projects under this alternative do not involve the addition/alteration or demolition of any architectural and engineering resources, demolition of Building 5542 would also be accomplished under this alternative (refer to Table 4.8-1). As such, impacts to architectural and engineering resources under the Alternative Action are virtually the same as for the Proposed Action. In compliance with Section 106 of the NHPA, Building 5542 would need to be evaluated for NRHP eligibility prior to the implementation of the Alternative Action. In the event of inadvertent discoveries of cultural resources during any project-related activities, all activities at that location would be halted until the find is evaluated by a qualified professional archaeologist, in compliance with federal laws and USAF regulations.

Impacts to traditional resources are not expected under the Alternative Action. The ILANG has initiated contact with the nearby tribes to identify any potential concerns they may have associated with the Alternative Action. Tribal contact letters are included in Appendix A.

4.8.2.3 No Action Alternative

Under the No Action Alternative, the 126 ARW would not carry out the proposed construction and demolition projects associated with the action alternatives. No impacts to archaeological, architectural/engineering, or traditional resources would be expected. The facilities would continue to be managed in compliance with federal laws and USAF regulations.

4.9 SAFETY

4.9.1 METHODOLOGY

Impacts related to safety are assessed according to the potential to increase or decrease risks to personnel, the public, and property. Proposal-related activities are considered to determine if additional or unique safety risks are associated with their undertaking. If any proposal-related activity indicated a major variance from existing conditions, it would be considered a safety impact.

4.9.2 IMPACTS

4.9.2.1 Proposed Action

Under the Proposed Action, there would be no change to flying operations. Therefore, flight safety risks and BASH risks would remain as described in Section 3.9.2.

Providing new facilities for the 126 ARW that support operational requirements, and are properly sited with adequate space and a modernized supporting infrastructure would generally enhance ground, explosive, and flight safety during required operations, training, maintenance and support procedures, security functions, and other activities conducted by the unit. Fire and crash response capability would be improved by the proposed addition to the Mid-Field Fire Station.

Construction of the pumphouse spill containment complex would enhance ground safety, and minimize risks associated with fire and environmental contamination. Construction of a new Pavements and Grounds facility would also correct many ground safety concerns by eliminating existing health, safety, and fire code deficiencies. Proposed modifications to the Communication Facility would also enhance ground safety and equipment security by providing adequate environmental controls ensuring the safe and efficient operation of the communication function.

Overall unit safety and security would be improved by the proposed modifications to the Security Forces Facility.

Demolition of Building 5542 would also provide positive safety impacts inasmuch as it results in removing a facility that is dilapidated and functionally inadequate.

Activities involved in the proposed facility construction, modification, and demolition are not unique. Standard building and construction procedures and BMPs would be followed by the construction contractor(s). Implementation of the Proposed Action would involve ground activities that may expose workers performing the required site preparation, grading, and building construction to some risk. The U.S. Department of Labor, Bureau of Labor Statistics maintains data analyzing fatal and non-fatal occupational injuries based on occupation. Due to the varying range of events classified as non-fatal injuries, the considerations described below focus on fatal injuries since they are the most catastrophic. Data are categorized as incidence rates per 100,000 workers employed (on an annual average) in a specific occupation.

To assess relative risk associated with this proposal, it was assumed that the industrial classifications of workers involved are the Construction Trades. Based on U.S. Department of Labor data and considerations of worker exposure, the probability of a fatal injury would be statistically predicted to be 1.17 out of 10,000 (U.S. Department of Labor 2004). Although DoD guidelines for assessing risk hazards would categorize the hazard category as “catastrophic” (because a fatality would be involved), the expected frequency of the occurrence would be considered “remote” (MIL-STD-882 1993). While the potential result must be considered undesirable, risk is low. Strict adherence to all applicable occupational safety requirements would further minimize the relatively low risk associated with these construction activities.

In general, implementation of the Proposed Action would result in positive impacts to safety.

4.9.2.2 Alternative Action

Under the Alternative Action, the 126 ARW would accomplish the proposed construction projects discussed in Section 2.2. Under this alternative, three additional construction projects would be accomplished. Expanding the aircraft apron would enhance ground safety by providing adequate maneuvering space for the increased level of assigned aircraft. The further additions to the Mid-Field Fire Station, providing infrastructure support for 27 additional fire fighters, enhances ground safety, and fire and crash response capability. Finally, the construction of a new fuel hydrant pit and blast deflector on the aircraft parking apron would support more efficient fueling on the apron, and comply with all military Type III hydrant fueling system requirements.

Safety issues associated with the construction phase of this alternative would be as described under the Proposed Action.

Also under the Alternative Action, the unit's current 8 KC-135E aircraft would be replaced with 12 KC-135R aircraft. To assess safety impacts associated with these changes, an estimated 50 percent increase in based-aircraft operations was assumed. Under current conditions, with the unit flying approximately 3,900 hours annually, calculations statistically indicate that the unit could be expected to experience a Class A mishap once every 40 years. With an increase to approximately 5,850 annual hours, this projection is reduced to once every 27 years. Nevertheless, the probability of an aircraft assigned to the 126 ARW experiencing a Class A mishap remains relatively unchanged from the conditions described in Section 3.9.2 (mishap probability is 0.000006).

Increased flying hours result in increased exposure to bird-aircraft strikes. Based on historic data, the 126 ARW has experienced less than eight bird-strikes per year. Although risk exposure would increase with an increase in flying hours, it would not be expected to result in a serious flight risk issue.

In general, implementation of the Alternative Action would result in positive impacts to ground safety, while the potential for flying mishaps would increase.

4.9.2.3 No Action Alternative

Under the No Action Alternative, no facility improvements would be accomplished. The 126 ARW would continue operations and maintenance using existing facilities. The size, configuration, and infrastructure associated with these existing facilities would continue to be inadequate in some cases. The existing adverse ground, explosive, and safety issues would continue, and could ultimately impact on the unit's ability to support its required mission.

4.10 SOLID AND HAZARDOUS MATERIALS AND WASTE

This section addresses the potential impacts caused by solid waste, and hazardous materials and waste management practices that would result from implementation of the alternatives. Hazardous materials and petroleum products, hazardous and petroleum wastes, ERP sites, and solid wastes are discussed below.

4.10.1 METHODOLOGY

The qualitative and quantitative assessment of impacts focuses on how and to what degree the alternatives would affect hazardous materials usage and management, hazardous waste generation and management, and waste disposal. The assessment considers potential for increase

in the quantity or toxicity of hazardous substances used or generated. Significant impacts could result if a substantial increase in human health risk or environmental exposure was generated at a level that cannot be mitigated to acceptable standards.

Regulatory standards and guidelines have been applied in evaluating the potential impacts that may be caused by hazardous materials and wastes. The following criteria are used to identify potential impacts:

- Generation of 100 kilograms (or more) of hazardous waste or 1 kilogram (or more) of an acutely hazardous waste in a calendar month, resulting in increased regulatory requirements.
- A spill or release of a reportable quantity of a hazardous substance as defined by the USEPA in 40 CFR Part 302.
- Manufacturing, use, or storage of a compound that requires notifying the pertinent regulatory agency according to EPCRA.
- Exposure of the environment or public to any hazardous material and/or waste through release or disposal practices.

4.10.2 IMPACTS

4.10.2.1 Proposed Action

Hazardous Materials and Petroleum Products

Hazardous materials and petroleum products associated with 126 ARW operations would continue to be managed in accordance with all federal, state, and local regulations, as well as existing 126 ARW procedures. Construction activities associated with the Proposed Action would require the temporary use of certain hazardous materials such as sealants, primers, paints, solvents and preservatives. The construction equipment proposed for this project would utilize various fuels, coolants, lubricating oils and hydraulic fluids. If spilled or leaked onto the construction site, these could be regulated as hazardous substances. During construction, contractors would be required to conduct daily equipment inspections to minimize the potential for a release of hazardous substances. In addition, contractors would be required to store all fuels and other materials in appropriate containers in designated locations. Furthermore, the maintenance or repair of construction equipment would not be conducted on Scott AFB.

Hazardous and Petroleum Wastes

Under the Proposed Action, the 126 ARW would continue to perform the same functions as it is currently assigned. Because aircraft maintenance, vehicle maintenance, and facility maintenance would remain the same as under current operations, the amount of hazardous and petroleum wastes generated would remain the same over the long term. Although some additional hazardous and petroleum wastes would be generated by construction activities, generation of these wastes would occur only for the duration of the construction activities and would be managed in compliance with all applicable regulations.

The only demolition under the Proposed Action is Building 5542, a multi-vehicle carport that was constructed in 1951. Although it is not likely that ACM and LBP would be present due to the past use of Building 5542, based on the age of this building (i.e., constructed in 1951), they could be present. If asbestos is present, a licensed asbestos abatement contractor would remove all friable asbestos materials from the buildings prior to demolition. The 126 ARW would ensure compliance with all regulations pertaining to ACM and LBP removal.

Under the Proposed Action, construction and future operation of the proposed facilities would not have a substantial impact on the use, storage, or generation of hazardous wastes at the installation. If a contractor cannot avoid the generation of hazardous waste, the contractor would be responsible for the final disposition of those materials per contract specifications and environmental laws. The improper usage or disposal of hazardous materials or wastes during construction activities could result in Notices of Violation from the Illinois EPA. The construction of the spill containment facility around the pumphouse has the potential to reduce or eliminate the future release of hazardous substances from this building.

Under the Proposed Action, training requirements and aircraft sortie levels would remain the same as current operations and the amount of hazardous and petroleum wastes generated would remain the same over the long term. The new and remodeled facilities would be constructed with berms and drains leading to OWS, if required, to contain releases of petroleum products. Hazardous materials and waste management plans would be updated, as necessary, as successive construction projects are completed.

Environmental Restoration Program

With regard to the ERP sites, the Proposed Action includes the construction of facilities within or near four AOCs (Figure 4.10-1). The construction of the Pavements and Grounds Facility, the TACTC and the demolition of Building 5542 would occur within the area designated as AOC 23. The construction of the Security Forces and Communications Facility additions would occur within the area designated as AOC 14 and the addition to Building 5028 is proposed to occur near one of the former oil/water separators (OWS 15) identified as part of AOC 6. Although the construction associated with implementation of the Proposed Action would involve the disturbance of surface soils, all of the projects would be constructed on concrete slabs and on grade with no basements or subsurface structures other than the possible extension of buried utility lines. Preliminary investigations are currently ongoing at the various AOC sites and no formal risk assessments have been conducted at this time. Once preliminary investigation of these AOCs is complete, the 126 ARW would evaluate what steps need to be taken in order to properly address potential contamination associated with these sites, including remediation or other measures to minimize risks associated with the potential to encounter hazardous wastes. However, due to the limited amount of soil disturbance associated with the Proposed Action, implementation of the Proposed Action would not be anticipated to cause significant impacts to human health and the environment.

Solid Wastes

It is anticipated that the implementation of the Proposed Action at Scott AFB would have a minimal impact to the solid waste management program at Scott AFB or to the capacity of the area landfill. Solid waste generated from implementation of the Proposed Action would consist of a minimal amount of building materials such as drywall, solid pieces of concrete, metals (conduit, piping, and wiring), and lumber.

The demolition of Building 5542 would generate approximately 500 cubic yards of construction debris. Arrangements would be made for the storage or disposal of construction and demolition debris at a licensed disposal facility. All solid waste would be disposed of in accordance with applicable federal, state, local, and USAF regulations. With adequate available landfill capacity in the surrounding area, these quantities would not cause adverse impacts to the capacity of the area landfill.

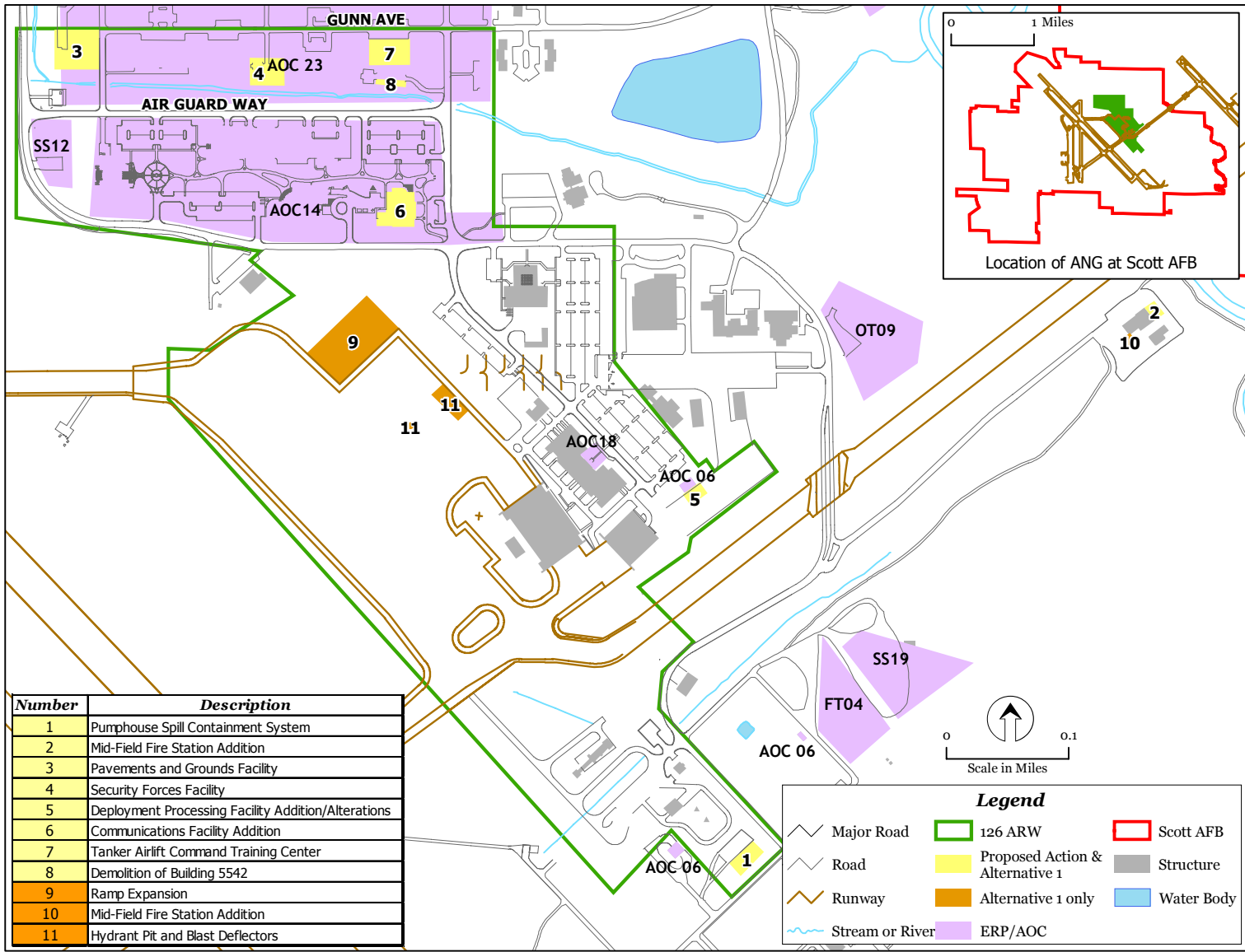


Figure 4.10-1. ERP Sites and AOCs in Relation to Proposed Construction Activities on the 126 ARW Installation at Scott AFB, Illinois

4.10.2.2 Alternative Action

Under the Alternative Action, the eight construction and demolition projects associated with the Proposed Action would occur along with additional construction activities and a net increase in aircraft and personnel. The addition of four aircraft and 27 assigned personnel would result in an increase in aircraft operations; however, an increase in the subsequent use and generation of hazardous materials, substances and waste is not expected due to the maintenance schedule of the newer airframe. Under the Alternative Action, aircraft sortie levels would increase approximately 50 percent; however, the amount of hazardous and petroleum wastes generated would likely remain as described under the Proposed Action over the long-term, as the new model requires less maintenance.

The potential impacts to human health and the environment resulting from construction activities in and around ERP or AOC sites would not be substantially different than those associated with the Proposed Action (Figure 4.10-1). Solid waste associated impacts resulting from implementation of the Alternative Action would increase slightly due to the additional construction but generally remain as described under the Proposed Action. Therefore, potential impacts from solid and hazardous materials and wastes as a result of the Alternative Action would be minimal.

4.10.2.3 No Action Alternative

Under this alternative, there would be no change to the current operations of the installation. Therefore, conditions within the ROI would continue as described in Section 3.10.2 for solid and hazardous materials and waste management.

4.11 INFRASTRUCTURE

4.11.1 METHODOLOGY

Impacts to transportation and utilities are assessed with respect to the potential for disruption to or improvement of current circulation patterns and utility systems, deterioration or improvement of existing levels of service on roadways, changes in existing levels of transportation, changes in demand or utility systems, and utility safety. Impacts may arise from physical changes to circulation or utility corridors, construction activity and introduction of construction-related traffic and utility use. Adverse impacts on roadway capacities would be significant if roads with no history of capacity exceedance were forced to operate at or above their full design capacity.

4.11.2 IMPACTS

4.11.2.1 Proposed Action

Under the Proposed Action, the 126 ARW would implement construction and demolition projects described in detail in Section 2.2. Implementation of the Proposed Action would gradually remove and replace aging facilities, improve some aspects of utilities systems, and improve some aspects of the installation circulation system.

The Proposed Action would result in an increase in vehicle trips to and from the 126 ARW installation for construction workers and the delivery of materials and equipment, as well as removal of demolition debris. Increases in traffic volumes on roads surrounding the installation would be temporary, and because the elements of the Proposed Action would be phased over several years, the impacts to the local transportation system would be minor. Because the Proposed Action does not include any increases in personnel or operations of the 126 ARW, no permanent increases in vehicle trips would occur.

Currently, fuel accidentally released from the pumphouse would eventually flow into the storm drainage system, presenting substantial environmental concerns. Under the Proposed Action, the 126 ARW would construct pumphouse spill containment by installing new piping and drainage inlets, installing above ground fuel piping, encompassing all potential exists, and raising manholes within the existing containment area. As a result, the Proposed Action would reduce the potential for fuel to be released into the storm drainage system and would decrease potential health, safety, and environmental risks.

Construction activities associated with the Proposed Action could result in some temporary interruption of utility services and minor hindrance of transportation and circulation. These impacts would be temporary, occurring only briefly during the construction period, and would occur in phases.

4.11.2.2 Alternative Action

Under the Alternative Action, the 126 ARW would implement construction and demolition projects described in detail in Section 2.3. Implementation of the Alternative Action would gradually remove and replace aging facilities, improve utilities systems, and improve some aspects of the installation circulation system.

The Alternative Action would result in roughly the same minor impacts as the Proposed Action; however, due to a minor increase in the number of construction projects, the increase in vehicle trips to and from the 126 ARW installation for construction workers and the delivery of materials and equipment, as well as removal of demolition debris, would be somewhat greater. The

Alternative Action would also result in an increase of personnel and operations, therefore a permanent increase in vehicle trips would occur. However, it is not anticipated that the permanent increase in vehicle trips generated by 27 additional personnel would have a substantial effect on local traffic.

Construction activities associated with the Alternative Action could result in a somewhat larger number of temporary interruptions of utility services and minor hindrances of transportation and circulation due to the three additional construction projects. These impacts would be temporary, occurring only briefly during the construction period, and would occur in phases.

4.11.2.3 No Action Alternative

Under the No Action Alternative, the 126 ARW would maintain their existing facilities and would not undertake the construction and demolition projects described under the Proposed Action. Continued use and maintenance of the existing degraded and inefficient facilities and infrastructure would require that the 126 ARW continue to operate under unnecessarily inefficient conditions.

5.0 CUMULATIVE IMPACTS AND IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

5.1 CUMULATIVE IMPACTS

Cumulative impacts to environmental resources result from incremental effects of proposed actions when combined with other past, present, and reasonably foreseeable future projects in the ROI. Cumulative impacts can result from individually minor, but collectively substantial, actions undertaken over a period of time by various agencies (federal, state, and local) or individuals. In accordance with NEPA, a discussion of cumulative impacts resulting from projects that are proposed (or anticipated over the foreseeable future) is required.

The 126 ARW and the Scott AFB host, the 375 AW, both update facilities on a continual basis, as necessary. While it is not practical to catalog all minor projects that could occur over the short-term, the major projects in the ROI have been analyzed for the potential to create cumulative environmental impacts. Planning efforts in the ROI include the actions described within this EA, as well as those other projects that are ongoing, or planned over the short-term. Additional projects within the ROI are discussed below.

5.1.1 CURRENT AND REASONABLY FORESEEABLE ACTIONS IN THE REGION

Currently ongoing and other actions proposed over the next five years (in addition to those that are a component of this EA) at and surrounding Scott AFB are shown in Table 5.1-1.

As an active military installation, Scott AFB and its tenants undergo changes in mission and training requirements in response to defense policies, current threats, and tactical and technological advances, and as such, require new construction, facility improvements, infrastructure upgrades, and ongoing maintenance and repairs on a continual basis. Although such known construction and upgrades are a part of the analysis contained in this section, some future requirements cannot be predicted. As those requirements surface, future NEPA analysis will be conducted, as necessary.

Table 5.1-1. Ongoing and Proposed Projects in the ROI

<i>Project Name/Description</i>	<i>Approximate Square Footage</i>	<i>Anticipated Fiscal Year for Implementation</i>
On-going Projects		
Construct Explosive Ordnance Disposal Facility	6,405	On-going
Demolition of Various Buildings (800, 853, 854, 855, 878, 3164, 4141, 4157)	58,978	On-going
Proposed Projects over the Next Five Years		
Construct Security Forces Warehouse	6,000	2006-07
Construct C-40 Squadron Operations Facility	21,000	2006-07
Construct a Security Forces Complex	33,906	2007
Construct an Administrative Facility for Headquarters AMC and Headquarters USTC, Phase I and II	210,000	2007-08
Construct a Dormitory for 144 Enlisted Personnel	51,150	2007-08
Construct a Child Development Center	22,604	2008-09
Construct Fitness Center	39,600	2008-09
Construct Aeromedical Evacuation Squadron Warehouse	7,500	2009-10
Construct Defense Information Systems Administration Facility	100,000	2010-11
Construct Distribution and Processing Center	31,000	2010-11
Construct Base Exchange Parking Lot	87,120	2006-07
Construct Civil Engineering Complex	84,365	2010
Construct Golf Course Club House; Realign Course	20,000	2010
Addition/Alteration to C-40 Squadron Operations Facility	16,086	2011
Construct 375 th Communication Squadron Document Staging Warehouse	7,500	2007-08
Addition/Alteration to Vehicle Maintenance Facility	4,000	2008-09
Total Square Footage	807,214 SF (18.5 acres)	

The goal of this EA is to document the known projects required at the 126 ARW installation at Scott AFB over the next five years in support of their mission; provide an environmental analysis of these projects; and prepare to implement the appropriate facility improvements as funds become available. It is quite likely that during the course of the next five years, additional projects not included in this analysis may be required. The nature of the military today is that missions are dynamic and planners at the installation level must be proactive in addressing potential impacts associated with these changes. One of the primary purposes of preparing this EA is to streamline the NEPA process, where appropriate, by preparing a comprehensive document (herein) that will support future tiering of environmental analyses and application of categorical exclusions, as appropriate. Should additional projects be required, a checklist has been provided that should facilitate tiering and/or application of categorical exclusions. If the Environmental Manager can ensure that the following conditions are met, then it would likely be appropriate to use the existing EA for tiering or application of a categorical exclusion, depending on the particular situation:

- Wetlands and/or waters of the U.S. would not be impacted.
- Federally and/or state listed species of concern, and/or migratory birds would not be impacted.
- ERP sites would not be impacted.
- Historic properties, sites, American Indian traditional resources would not be impacted.
- No unapproved facilities would be located within quantity-distance arcs.
- NPDES permit would be updated, as necessary.
- Federal and/or state AAQS would not be exceeded.
- There would be no adverse impacts to disadvantaged and/or youth populations.

5.1.2 ANALYSIS OF CUMULATIVE IMPACTS

Earth Resources. In addition to the 1.80 acres of surface disturbance over the course of the construction program associated with the Proposed Action (and 3.43 acres under the Alternative Action) up to an additional 18.5 acres of surface disturbance could result over the next five years from other future construction associated with the Scott AFB projects described in Table 5.1-1. The grading of existing soil and placement of structural fill for new facilities would not substantially alter existing soil conditions at the installation because, to a large extent, the

construction described above is planned for areas where surface disturbance has previously occurred. BMPs would be used to limit soil movement, stabilize runoff, and control sedimentation. Cumulative impacts to earth resources are expected to be minimal.

Water Resources. In addition to a net increase of approximately 1.75 acres of impervious surface that would result under the Proposed Action (and 3.43 acres under the Alternative Action), up to an additional 18.5 acres of impervious surface would be added as a result of the projects described in Section 5.1.1. To a large extent, the construction described above is planned for areas that already contain a large amount of impervious surface, and therefore much of the proposed construction would occur on already impervious surfaces. The 126 ARW and Scott AFB would update their SWPPP to include these projects and would obtain, as appropriate, coverage under an NPDES Construction Storm Water permit from the Illinois EPA. Adherence to the requirements of the permit would include implementation of BMPs to minimize the potential for exposed soils or other contaminants from construction activities to reach nearby surface waters. It is expected that cumulative impacts to water resources would be minimal.

Biological Resources. In general, the Proposed Action, the Alternative Action, and the projects listed in Section 5.1.1 are at sites that are highly altered by man. The potential for any federally listed species to occur on the Base is low, with the exception of the Indiana Bat. Recent correspondence with the IDNR revealed that no records exist of any state-listed threatened or endangered species on or adjacent to the Base. Project proponents would coordinate, as necessary, with the USFWS prior to implementation of construction activities to ensure that impacts to sensitive species do not occur. Cumulative impacts to biological resources are expected to be minimal.

Air Quality. In general, combustive and fugitive dust emissions from proposed construction activities under either the Proposed Action or the Alternative Action, as well as those activities described in Section 5.1.1, would produce localized, elevated air pollutant concentrations that would occur for a short duration and would not result in any long-term impacts on the air quality of St. Clair County or AQCR 70. Cumulative impacts to air quality in the County and the AQCR are expected to be minimal.

Noise. Construction noise emanating off-site as a result of the Proposed Action and the activities described in Section 5.1.1 would probably be noticeable in the immediate construction site vicinity, but would not be expected to create adverse impacts. In addition, noise associated with the aircraft conversion and the associated construction activities described under the Alternative Action in concert with those actions described in Section 5.1.1 would similarly not be expected to create adverse impacts because the noise contours actually shrink under this alternative. The acoustic environment on and near the airfield property is expected to remain relatively

unchanged from existing conditions under all described activities. Cumulative impacts from noise would be expected to be minimal.

Land Use/Visual Resources. The proposed construction and demolition projects described under both the Proposed Action and the Alternative Action, as well as those described in Section 5.1.1, are expected to enhance overall installation planning and compatibility of functions on the 126 ARW installation and at Scott AFB in general. Some existing incompatibilities would be corrected. Visual resources are generally not expected to be impacted. Cumulative impacts to land use and visual resources are expected to be minimal.

Socioeconomics/Environmental Justice. There are no substantial long-term changes in population and/or employment as a result of implementation of the Proposed Action or the projects described in Section 5.1.1. Although there is an anticipated increase of 27 personnel under the Alternative Action, this is a minor increase and should not result in any appreciable impact. Additionally, the projects described under both action alternatives are not expected to create adverse environmental or health effects and therefore no disproportionately high or adverse impacts to minority, low-income, or youth populations are expected. Cumulative impacts to socioeconomics and environmental justice are expected to be minimal.

Cultural Resources. Activities associated with either the Proposed Action, or the Alternative Action, and the projects described in Section 5.1.1 are not expected to impact archaeological or traditional resources. Demolition of all proposed facilities, including Building 5542, would be coordinated with the Illinois SHPO to determine its eligibility to the NRHP prior to demolition. Cumulative impacts to cultural resources are expected to be minimal.

Safety. Implementation of the Proposed Action, or the Alternative Action, and the activities described in Section 5.1.1 do involve ground activities that may expose workers performing the required site preparation, grading, and building construction to some risk. Strict adherence to all applicable occupational safety requirements would minimize the relatively low risk associated with these construction activities. All projects have been sited outside any quantity-distance arcs, as appropriate. Additionally, the proposed projects would include measures to enhance and correct AT/FP shortfalls as part of the facility designs. Cumulative impacts to safety are expected to be minimal.

Hazardous Materials and Waste Management. The proposed construction and demolition projects associated with the Proposed Action or the Alternative Action, as well as those described in Section 5.1.1, would generate construction and demolition waste that would be recycled and/or taken to a local demolition landfill, as appropriate. There are no capacity issues with the existing landfills. Hazardous materials and wastes would be handled, stored, and disposed of in accordance with applicable regulations. Any ACM, LBP, or contaminated soils

associated with ERP sites would be removed and disposed of per applicable regulations. Cumulative impacts as a result of hazardous materials and waste management are expected to be minimal.

Infrastructure. The proposed construction and demolition projects associated with the Proposed Action or the Alternative Action, as well as those described in Section 5.1.1, would result in some temporary interruption of utility services and minor hindrance of transportation and circulation during construction activities. These impacts would be temporary, occurring only for the duration of the construction period. In general, infrastructure at the 126 ARW installation and Scott AFB would improve under these actions. Cumulative impacts to infrastructure are expected to be minimal.

5.2 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

NEPA CEQ regulations require environmental analyses to identify “...any irreversible and irretrievable commitments of resources that would be involved in the Proposed Action should it be implemented” (40 CFR Section 1502.16). Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects the uses of these resources have on future generations. Irreversible effects primarily result from the use or destruction of a specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable time frame. Building construction material such as gravel and gasoline usage for construction equipment would constitute the consumption of non-renewable resources.

Neither the Proposed Action nor the Alternative Action would have irreversible impacts because future options for using these project locations would remain possible. The sites could be used for alternative uses in the future, ranging from natural open space to urban development. No loss of future options would occur as a result of either of these alternatives.

The primary irretrievable impacts of the Proposed Action or the Alternative Action would involve the use of energy, labor, materials and funds, and the conversion of some lands from an undeveloped condition through the construction of buildings and facilities. Irretrievable impacts would occur as a result of construction, facility operation, and maintenance activities. Direct losses of biological productivity and the use of natural resources from these impacts would be inconsequential.

6.0 SPECIAL OPERATING PROCEDURES AND MITIGATIONS

6.1 SPECIAL OPERATING PROCEDURES

Impact evaluations contained in this EA have determined that no significant environmental impacts would result from implementation of the Proposed Action or Alternative Action. However, this determination is based on the following procedures being completed by knowledgeable, responsible personnel from the 126 ARW, working through the appropriate federal, state, and local agencies.

- Construction BMPs would be employed during construction activities to minimize soil movement, stabilize runoff, and generally control sedimentation. These BMPs would include, but not be limited to: the development of a project specific SWPPP; regular and documented site inspections; the use of well maintained silt fences; minimizing surficial area disturbed at any given moment; stabilization of cut/fill slopes; minimization of earth-moving activities during wet weather; use of temporary detention ponds; and rapid re-vegetation.
- The 126 ARW would obtain any required permits, approvals, or certifications prior to implementing construction or demolition activities.
- The 126 ARW would obtain an NPDES Construction Storm Water Permit from the Illinois EPA Bureau of Water. The Scott AFB SWPPP would also be updated at this time.
- Personnel conducting construction and/or demolition activities would strictly adhere to all applicable occupational safety requirements during construction activities.
- Coordination with SHPO and interested tribes would occur prior to construction and/or demolition activities, as appropriate. Specifically, the 126 ARW would coordinate with Illinois SHPO regarding the demolition of Building 5542.
- If necessary, sampling for asbestos and LBP would occur prior to demolition of Building 5542, and materials would be handled in accordance with USAF policy.
- Contaminated soils associated with ERP sites would be removed and disposed of per applicable regulations, as determined necessary.

6.2 MITIGATION

Special operating procedures differ from mitigation in that the former are designed to prevent negative impacts during the implementation of an action while the latter remediate impacts that occur as a result of the action. Since there are no impacts anticipated as a result of implementation of the Proposed Action, no mitigation measures are required.

7.0 PERSONS AND AGENCIES CONTACTED

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**APPENDIX A INTERAGENCY AND INTERGOVERNMENTAL
COORDINATION FOR ENVIRONMENTAL PLANNING (IICEP)**

5 June 2006

**INTERAGENCY AND INTERGOVERNMENTAL COORDINATION FOR
ENVIRONMENTAL PLANNING (IICEP) DISTRIBUTION LIST FOR THE 126 ARW
ENVIRONMENTAL ASSESSMENT**

US EPA Region 5
77 W. Jackson Blvd.
Chicago, IL 60604

Illinois Department of Transportation
2300 S. Dirksen Pkwy.
Springfield, IL 62764
Phone: 217-782-7820

Illinois Department of Natural Resources
Region IV
4521 Alton Commerce Pkwy.
Alton, IL 62002
Phone: 618-462-1181

Illinois Environmental Protection Agency
2009 Mall St.
Collinsville, IL 62234
Phone: 618-346-5120

US Army Corps of Engineers
St. Louis District
1222 Spruce St.
St. Louis, MO 63103-2822
Phone: 314-331-8010

Mr. Bob Delaney
St. Clair County Clerk's Office
#10 Public Square, 2nd Floor
Belleville, IL 62220
Phone: 618- 277-6600 Ext. 2380

US Fish and Wildlife Service
Two Rivers National Wildlife Refuge
HCR 82 Box 107
Brussels, IL 62013
Phone: 618-883-2524

Richard Nelson, Field Supervisor
US Fish and Wildlife Service
Rock Island Ecological Services Field
Office
4469 48th Ave. Court
Rock Island, IL 61201

Mr. William Wheeler, State Historic
Preservation Officer
Illinois Historic Preservation Agency
1 Old State Capitol Plaza
Springfield, IL 62701-1512
Phone: 217-785-1153
Fax: 217-524-7525

Mr. Charles Hartke, Director
Illinois Department of Agriculture
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Mr. John P. Froman, Chief
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jfroman@peoriatribe.com

ANG/CEVP
3500 Fetchet Avenue
Andrews AFB MD 20762-5157

«Company»
«Address1»
«Address2»
«Address3»
«City», «State» «PostalCode»

Dear Sir/Madam

The Illinois Air National Guard at Scott Air Force Base, Illinois, has prepared a Draft Environmental Assessment (EA) for a proposal to implement construction, demolition, and other projects for improvements at their installation, as well as other actions (Attachment 1).

The environmental analysis for the Proposed Action is being conducted by the Air National Guard in accordance with the Council on Environmental Quality guidelines pursuant to the National Environmental Policy Act of 1969. In accordance with Executive Order 12372, Intergovernmental Review of Federal Programs, we request your participation by reviewing this Draft EA, and solicit your comments concerning the proposal and any potential environmental consequences of the action. Section 5.0 of this EA analyzes the cumulative impacts of this and other actions in the region of influence (ROI). If there are other known actions in the ROI that are not included in Section 5.0 please list those actions in your comments. A listing of federal and state agencies that have been contacted is attached (Attachment 2). If there are any additional agencies that you feel should review and comment on the Draft EA, please indicate these in your response to us.

Any questions concerning the proposal should be directed to our consultant, Science Applications International Corporation (SAIC). The point of contact is Ms. Kate L. Bartz. She can be reached at (520) 326-0951 if you have any questions or concerns. Please forward your written comments to Ms. Bartz, in care of SAIC, 2617 East 7th Street, Tucson, Arizona 85716, no later than March 10, 2006. Thank you for your assistance.

Sincerely

HARRY A. KNUDSEN, JR.
Chief, Environmental Planning Branch

Attachments:

1. Draft Environmental Assessment for ILANG Construction Projects
2. Distribution list



**Illinois Historic
Preservation Agency**

1 Old State Capitol Plaza • Springfield, Illinois 62701-1512 • Teletypewriter Only (217) 524-7128

Voice (217) 782-4836

St. Clair County
O'Fallon

PLEASE REFER TO: IHPA LOG #019020906 www.illinois-history.gov

Security Forces Facility, Tanker Airlift Command Training Center; Addition/Facility 5038, Building
3901, Building 5028, Building 5010; Building 5542
Construction/Modification & Demolition/126th Air Refueling Wing/Scott Air Force Base

March 6, 2006

Ms. Kate L. Bartz
SAIC
2617 East 7th Street
Tucson, AZ 85716

Dear Madam:

We have reviewed the documentation submitted for the referenced project(s) in accordance with 36 CFR Part 800.4. Based upon the information provided, no historic properties are affected. We, therefore, have no objection to the undertaking proceeding as planned.

Please retain this letter in your files as evidence of compliance with section 106 of the National Historic Preservation Act of 1966, as amended. This clearance remains in effect for two (2) years from date of issuance. It does not pertain to any discovery during construction, nor is it a clearance for purposes of the Illinois Human Skeletal Remains Protection Act (20 ILCS 3440).

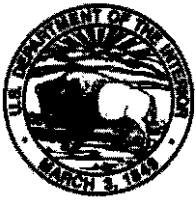
If you are an applicant, please submit a copy of this letter to the state or federal agency from which you obtain any permit, license, grant, or other assistance.

Sincerely,

Anne E. Haaker
Deputy State Historic
Preservation Officer

AEH

cc: Kevin Jacobs, Major, ILANG



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Marion Illinois Suboffice (ES)
8588 Route 148
Marion, IL 62959
(618) 997-3344

March 31, 2006

Ms. Kate L. Bartz
Science Applications International Corp.
2617 East 7th Street
Tucson, Arizona 85716

Dear Ms. Bartz:

We have reviewed the draft Environmental Assessment (EA), dated February 6, 2006, prepared for the Illinois Air National Guard to implement construction, demolition and other projects associated with improvements to their facilities located at Scott Air Force Base, St. Clair County, Illinois. The proposed action includes: 1) construct Pumphouse spill containment; 2) addition to Mid-Field Fire Station; 3) construct Pavements and Grounds Facility; 4) construct new Security Forces Facility; 5) addition/alteration to Deployment Processing Center; 6) construct Tanker Airlift Command Training Center; and, 7) demolish Building 5542. These comments are provided under the authority of and in accordance with the provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.); and the Endangered Species Act of 1973, as amended.

According to the draft EA, approximately 1.75 acres of maintained turf grass and otherwise undeveloped land is expected to be directly impacted and permanently lost due to building construction, parking lots and paving. This includes a few scattered maple and oak trees. Soils and water will be managed in accordance with Best Management Practices and a Storm Water Pollution Prevention Plan. Hazardous materials and wastes will be handled and disposed in accordance with environmental laws. The construction of the spill containment facility around the pumphouse has the potential to reduce or eliminate the future release of hazardous substances from this building.


Air emissions as a result of construction are predicted to increase, but are not likely to result in any long-term impacts to air quality. Similarly, new operational emissions are not expected to result in any long-term impacts on air quality. Finally, over the long-term, noise is not expected to increase in the project vicinity.

Based upon the information provided in the draft EA and summarized above, the proposed action is not likely to result in any measurable direct or indirect effects to federally listed threatened or endangered species. Therefore, we concur that the proposed activity is not likely to adversely affect any known federally listed threatened and endangered species. This precludes the need for further action on this project as required under Section 7 of the Endangered Species Act, as amended. Should the project be modified, or new information indicate listed or proposed species may be affected, consultation or additional coordination with this office, as appropriate, should be initiated.

Given the highly developed nature of the project area, we also concur that the proposed activity will have minimal impacts on fish and wildlife resources in the project area, including migratory birds.

Thank you for the opportunity to review the draft EA and provide comments. If you have any questions, please contact me at 618/997-3344, ext. 340.

Sincerely,



Joyce A. Collins
Assistant Field Supervisor

cc: IDNR (Rettig, Kath, Kemper)

SIP	State Implementation Plan
SO ₂	sulfur dioxide
SO _x	sulfur oxides
SPCC	Spill Prevention Control and Countermeasure
SWDA	Solid Waste Disposal Act
SWMP	Solid Waste Management Plan
SWPPP	Storm Water Pollution Prevention Plan
SY	square yard
TACC	Tanker Airlift Command Center
TACTC	Tanker Airlift Command Training Center
TPY	tons per year
U.S.	United States
USACE	United States Army Corps of Engineers
USAF	United States Air Force
USC	United States Code
USCB	United States Census Bureau
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UST	underground storage tank
UTA	unit training assembly
VOC	volatile organic compound
WWTP	Waste Water Treatment Plant